CESWG-RD-CC
Application: SWG-2013-00247

MEMORANDUM FOR THE RECORD

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above – Numbered Permit Application

This document constitutes the Environmental Assessment, Section 404(b)(1) Guidelines Evaluation (attached), Public Interest Review, and Statement of Findings for the subject application.

1. Applicant.

Gruppo Mossi & Ghisolfi
450 Gears Road, Suite 240
Houston, Texas 77067

LATITUDE & LONGITUDE (NAD 83):
Latitude: 27.835338 North; Longitude: 97.497612 West

2. Corps Authority. The US Army Corps of Engineers, Galveston District (Corps) will evaluate the proposed activity under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (33 USC 1344) and (33 USC 403).

3. Project and Site Description. The applicant proposes to construct an industrial facility (to be named M&G Polymers) that would produce plastic resins on approximately 204 acres along the Viola Ship Channel in Nueces County. Components of the industrial facility include the plastic resins plant and supporting railways and roadways, desalinization plant with intake and outfall structures, administration buildings, storm water control structures, electric power cogeneration facility (161.8 acres), permanent materials, equipment, and tool storage area (28.2 acres), a paraxylene pipeline connecting the proposed facility to a nearby paraxylene producing facility (13.5 acres), and overhead transmission line towers (0.4 acres). Construction of the project would involve the filling of 42.8 acres of non-forested wetlands within the project site, and dredging of approximately 15,000 cubic yards of sand and clay materials within the Viola Ship Channel for construction of the intake and outfall structures. The dredged material would be placed within Dredge Material Placement Area C. The project area includes uplands, the Viola Ship Channel and adjacent uplands and wetlands within the Joe Fulton International Trade Corridor in Corpus Christi, Nueces County, Texas. The USGS Quad reference map is: ANNAVILLE & CORPUS CHRISTI, Texas.

Avoidance and Minimization Information: The project site encompasses approximately 204 acres, of which 45.9 acres is palustrine emergent (PEM) wetlands, 1.4 acres is open tidal water, and 156.7 acres is uplands. The applicant's original project plans, as published in the 4 Feb 14 Public Notice, proposed the conversion of

45.3 acres of the PEM wetlands within the project footprint. In the applicant's current proposal, they have avoided impacts to 2.5 acres of PEM wetlands in the location of the permanent materials, equipment, and tool storage area. The wetland acreage of the project site increased from 45.3 to 45.9 acres once the wetland delineation was verified by the Corps on 1 May 14. The applicant has further avoided or minimized aquatic resource impact on-site by: 1) Construction of the plastic resins facility in an existing industrial area instead of a Green Field site which would likely result in impacts to naturally derived wetlands with greater diversity and function; 2) Construction of the plastic resins facility on portions of M&G property (within the above industrial area) with the least extent of waters of the U.S. versus other portions of the M&G-owned property; 3) Construction of the permanent materials, equipment, and tool storage area generally on upland portions of a wetland dominated area; 4) Avoidance of approximately 50% of wetlands within the initially proposed permanent materials, equipment, and tool storage area boundary; 5) Minimizing construction along the shoreline which would include articulated matting within and along the ship channel that could impact estuarine wetlands in those areas; 6) Utilization of directional drilling to avoid impacts to waters of the U.S. traversed by associated infra-structure (i.e. paraxylene pipeline); 7) Employment of temporary and permanent storm water control structures to capture and control the flow of storm waters offsite; 8) Use of desalinated process water to utilize saltwater from the ship channel instead of encroaching upon already overtaxed freshwater supplies in the Nueces River which supports thousands of acres a naturally derived wetlands as well as many federally listed endangered or threatened species; 9) Utilization of a site that will have no direct impact to any federally listed endangered or threatened species; 10) Utilization of a site that will have no impact to significant cultural resources of the Corpus Christi area; 11) Utilization of a site which will not impact prime farmland; and 12) Using sophisticated industrial processes to take locally developed excess paraxylene, which would normally be shipped to other locations, to produce plastic resins in a more environmentally friendly and economically viable way at such levels as to render other existing less environmentally friendly facilities obsolete.

Compensatory Mitigation: - The applicant's mitigation plan is a Permittee Responsible Mitigation (PRM) plan that consists of two tracts totaling 392.2 acres. Tract 1 is located off-site within a 317.7-acre area and will provide for 109.8 acres of re-establishment and 40.1 acres of enhancement of saline coastal prairie wetlands and Tract 2 is located adjacent to the project area within a 74.5-acre area and will provide 73.8 acres of intertidal, marsh preservation.

Tract 1 is located off-site approximately 7.75 miles northwest of the project site in San Patricio County, Texas and approximately 1.6 miles southeast of the intersection of Interstate Highway 37 and U.S. Highway 77. The approximate center of Tract 1 is latitude 27.891124° North and longitude 97.602345° West. Tract 1 is situated within the

Gulf Coast Saline Prairies Level IV Ecoregion which is within the Western Gulf Coastal Plain Level III Ecoregion as defined by Omernik (1995). Tract 1 is situated in the North Corpus Christi Bay Sub-basin, located between the Nueces River and Rincon Bayou.

Tract 2 is adjacent to the project site (immediately north of the facility storage area) to the north and borders the Nueces River. It is located approximately 4.9 miles southeast of the intersection of Interstate Highway 37 and Carbon Plant Road. The approximate center of Tract 2 is latitude 27.842891° North and longitude 97.499159° West. Tract 2 is situated within the Gulf Coast Saline Prairies Level IV Ecoregion which is within the Western Gulf Coastal Plain Level III Ecoregion as defined by Omernik (1995). Tract 2 is situated in the North Corpus Christi Bay Sub-basin, located between the Nueces River and Nueces Bay.

4. Purpose and Need.

Applicant's Stated Purpose and Need: The need for the proposed project is to supply M&G clientele with industrial plastic resin at an economically viable price utilizing new environmentally friendly processes. The purpose of the proposed project is to utilize the excess paraxylene resources of Corpus Christi to supply a plastic resins facility in the area. Access to various methods of shipping such as railway, semi-truck trailer, and ocean going vessels are necessary to allow for the greatest potential of economic success. The production of plastic resin requires access to a steady and reliable source of large volumes of freshwater for the industrial process. As such, the facility must be sited such that all resources are easily and reliably obtained. Locating the project within the Port of Corpus Christi industrial area satisfies all of the above requirements.

The Applicant's stated need is clearly defined and the purpose defines the siting criteria for the proposed project. The Corps agrees with the Applicant's Stated purpose and need but has refined it in the Overall Project Purpose.

Basic Project Purpose and Water Dependency Determination:
To construct an industrial facility to manufacture plastic resins.

The proposed project does not require access or proximity to or siting within a special aquatic site to fulfill its basic purpose; therefore, in accordance with 40 CFR Part 230, Section 404(b)(1) Guidelines the proposed project is not water dependent.

Overall Project Purpose:
To construct a industrial facility to manufacture plastic resins in close proximity to existing infrastructure for transport (water, rail, road and pipeline) adjacent to an area with reliable sources of large volumes of freshwater for industrial purposes within the Corpus Christi Area.

5. Existing Conditions. The project site is located on two historic dredge material placement areas No. 4 & 5, along the Joe Fulton International Trade Corridor in Corpus Christi, Nueces County, Texas. The 204-acre tract is surrounded to the north by the Nueces River and Nueces Bay, to the south by the Viola Ship Channel, and to east, open land that is currently proposed for development into a condensate splitter complex by the Castleton Commodities International (CCI) Corpus Christi and to the west by Port of Corpus Christi (PCCA) Rail Spur and other PCCA properties. The 204-acre project site was determined to contain 47.3 acres of aquatic resources, specifically 1.4 acres of open unvegetated tidal waters, subject to the ebb and flow of the tide, and 45.9 acres of wetlands, per a preliminary jurisdictional determination. The wetlands can be classified as palustrine emergent marsh and as are dominated by *Distichlis spicata*, *Borrichia frutescens*, *Andropogon glomerata*, and *Symphyotrichum divaricatum*.

The mitigation plan consists of two tracts totaling 392.2 acres. Tract 1 is 317.7 acres in size and located off-site approximately 7.75 miles northwest of project site in San Patricio County, Texas and approximately 1.6 miles southeast of the intersection of Interstate Highway 37 and U.S. Highway 77. Tract 1 was determined to contain 56.8 acres of waters of the United States, specifically 42.59 acres of adjacent wetlands and 14.21 acres of open tidally influenced waters. The wetlands on Tract 1 are dominated by *Spartina spartinae, Paspalum vaginatum*, *Borrichia frutescens*, and *Lycium carolinianum*.

Tract 2 is adjacent to the project site (immediately north of the facility storage area) to the north and borders the Nueces River. It is located approximately 4.9 miles southeast of the intersection of Interstate Highway 37 and Carbon Plant Road. Tract 2 is 74.5 acres in size and is located adjacent to the project site (immediately north of the facility storage area) to the north and is borders the Nueces River. It is located approximately 4.9 miles southeast of the intersection of Interstate Highway 37 and Carbon Plant Road. Tract 2 contains 73.8 acres of waters of the United States, specifically, adjacent wetlands. The wetlands on Tract 2 are dominated by *Distichlis spicata*, *Salicornia bigelovii*, *Batis maritima*, *Borrichia frutescens*, and *Spartina alterniflora*.

6. Background. On 17 June 2013 we received a request for a preliminary jurisdictional determination on the project site and on 21 November 2013 we received a Nationwide 39 permit application. On 2 December 2013 we notified the applicant that their NWP 39

application was incomplete and received an updated application on 11 December 2013. The Corps conducted a site visit on 18 December 2013 to verify the delineated aquatic resources on the project tract. Based upon our site visit we determined that the wetland boundaries were substantially different that the applicant's proposal (Consultant delineation: 0.4 acre to Corps verified acreage: 48 acres). We informed the applicant that a NWP 39 could not be used for impacts greater than 0.5 acre and that it could not be used for wetlands adjacent to tidal waters. On 21 January 2014 we received an Individual Permit application with the updated plans. A public notice was issued on 4 February 2014 and the agencies (EPA, USFWS, TPWD, Corps) conducted a joint site visit to the project site and found a violation along Carbon Plant Road. An unauthorized activity investigation ensued finding that the PCCA was the responsible party. PCCA restored the area to preconstruction contours and the violation was resolved. The Corps conducted a third site visit on 13 March 2014 to verify the project site wetlands. Some changes were made and are reflected in the 1 May 2014 PJD letter and associated maps.

7. Scope of Analysis.

a. NEPA: The determination of what is the appropriate Scope of Analysis governing the Corps' permit review and decision is guided by the Corps' National Environmental Policy Act (NEPA) regulations for the regulatory program: 33 CFR 325, Appendix B. The Scope of Analysis should be limited to the specific activity requiring a Department of the Army (DA) permit and any additional portions of the entire project over which there is sufficient Federal control and responsibility to warrant NEPA review. Appendix B states that factors to consider in determining whether sufficient "control and responsibility" exist include: 1) whether or not the regulated activity comprises "merely a link" in a corridor type project; 2) whether there are aspects of the upland facility in the immediate vicinity of the regulated activity which affect the location and configuration of the regulated activity; 3) the extent to which the entire project will be within Corps jurisdiction; and 4) the extent of cumulative Federal control and responsibility. Generally, the Corps' area of responsibility includes all waters of the U.S. as well as any additional areas of non-jurisdictional waters or uplands where the district determines there is adequate Federal control and responsibility to justify including those areas within the Corps' NEPA scope of analysis. This normally includes upland areas in the immediate vicinity of the waters of the U.S. where the regulated activity occurs (Standard Operating Procedures for the U.S. Army Corps of Engineers Regulatory Program – July 2009).

(1) Factors.

(i) With regard to the first factor that must be considered in the determination of sufficient Federal control and responsibility, the regulated activities associated with this industrial facility proposal do not comprise a link in a corridor type of project.

(ii) With regard to the second factor, the design of upland portions of the industrial facility occurring in the immediate vicinity of the regulated activities do not affect the location and configuration of the regulated activities.

(iii) With regard to the third factor, the extent to which the entire project will be within Corps jurisdiction, the proposed industrial facility will directly impact 42.8 acres of jurisdictional, adjacent palustrine emergent wetlands and 0.7 acre of unvegetated tidal waters (approximately 21% of the total acreage of the project site). These jurisdictional waters are scattered throughout the footprint of the project, and will be affected by fill activities associated with the creation of a facility that includes the plastic resins plant and supporting railways and roadways, desalinization plant with intake and outfall structures, administration buildings, storm water control structures, electric power cogeneration facility (161.8 acres), permanent materials, equipment, and tool storage area (28.2 acres), a paraxylene pipeline connecting the proposed facility to a nearby paraxylene producing facility (13.5 acres), and overhead transmission line towers (0.4 acres). This activity would impact the majority of the remaining uplands on the project site. Although impacts to upland areas on the project site will be considered under our Scope of Analysis, upland areas are not jurisdictional under the authorities of Section 404 of the Clean Water Act, or Section 10 of the Rivers and Harbors Act of 1899. Development frequently occurs on the uplands of the Joe Fulton International Trade Corridor with no DA authorization necessary.

Although there are areas within the footprint of the project wherein the Corps has jurisdiction, the entire project is not within the Corps' jurisdiction; thus, this project does not meet the third factor.

(iv) With regard to the fourth factor that must be considered in the determination of sufficient Federal control and responsibility, during our consideration of the extent of cumulative Federal control and responsibility for this project, we appropriately relied on and fully considered, information and reports from Federal agencies pursuant to their responsibilities under the Fish and Wildlife Coordination Act, the Endangered Species Act (ESA), and Essential Fish Habitat (EFH) regulations (National Marine Fisheries Service – NMFS). ESA threatened or endangered species consultation with the FWS and NMFS was required for this permit action. The FWS provided comments regarding ESA which are discussed in detail, in the Public Interest

factors. NMFS did not comment regarding the impacts to tidal waters; therefore we consider no EFH concerns exist and EFH consultation is complete. Our staff archeologist reviewed the project site and determined that there are no properties listed in the National Register of Historic Places for the permit area. A cultural resources investigation determined that there are no sites that may be eligible for inclusion and/or no further surveys were required. The State Historical Preservation Officer concurred with the staff archeologist determination on 24 February 2014. No further coordination was required pursuant to our responsibilities under 33 CFR 325, Appendix C.

We also relied on information from state and local entities with land use planning authority who are responsible for approving development in the area in question; specifically, the City of Corpus Christi and the Texas General Land Office. The project has not yet received its Section 401 Clean Water Act water quality certification from the TCEQ and its state coastal zone consistency approval under the Coastal Zone Management Act. Both of these clearances are pending and will be required before construction is initiated. No other requests for approval were denied by Federal and state land use planning authorities.

(2) Determined Scope. In conclusion, based on our examination of NEPA (33 CFR 325, Appendix B) and applicable program guidance (e.g. CEQ's Considering Cumulative Effects Under the National Environmental Policy Act and the Standard Operating Procedures for the U.S. Army Corps of Engineers Regulatory Program – July 2009), we have determined that the appropriate scope for this project is only within the footprint of the regulated activity within the delineated water

This project does not meet factors one, two, three and/or four. Therefore, sufficient Federal control and responsibility does not exist to warrant expanding our review to areas outside our jurisdiction, inclusive of those areas adjacent to project features that require DA permit. Our Scope of Analysis will include the direct impacts to areas within jurisdiction and the uplands situated immediately adjacent to the regulated activity.

b. National Historic Properties Act (NHPA) "Permit Area". The determination of what is the appropriate Scope of Analysis governing the Corps' permit review and decision is guided by the Corps' NHPA regulations for the regulatory program: 33 CFR 325, Appendix C.

(1) Tests. Activities outside waters of the United States are included because of all of the following tests are satisfied: Such activity would not occur but for the authorization of the work or structures within the waters of the United States; such activity is integrally related to the work or structures to be authorized within waters of the United States (or, conversely, the work or structures to be authorized must be essential to the completeness of the overall project or program); and such activity is directly associated (first order impact) with the work or structures to be authorized.

(2) Determined Scope. We have determined that the appropriate scope for this project is over the entire property. The activities occurring in uplands would not occur but for the impacts within waters of the United States.

c. Endangered Species Act (ESA) "Action Area." The determination of what is the appropriate Scope of Analysis governing the Corps' permit review and decision is guided by the Endangered Species Act of 1973.

(1) Action area means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.

(2) Determined Scope. We have determined that the appropriate ESA action area for this project is over the entire property. The activities occurring in uplands would not occur but for the impacts within waters of the United States.

8. Environmental Assessment.

a. Alternatives.
A key provision of the 404(b)(1) guidelines is the "practicable alternative test" which requires that "no discharge of fill material shall be permitted if there is a practicable alternative to the proposed fill which would have a less adverse impact on the aquatic ecosystem." This is especially true when the proposed project is not water dependent. The applicant must demonstrate that there are no less damaging sites available and that all onsite impacts to waters of the United States have been avoided to the maximum practicable extent possible. For an alternative to be considered "practicable", it must be available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose. The applicant considered the following siting criteria to determine the preferred alternative: 1) ample space for project construction (100+ acres); 2) access to transportation avenues (railway, water, roads); 3) access to water for production for industrial processes (would require 40% of the City of Corpus Christi's remaining water budget); 4) access to paraxylene source (crude feedstock); 5) relative lack of construction limitations

height/pipeline restrictions (design constraints); 6) a location away from existing residential development or other sensitive receptors and 7) avoiding and minimizing environmental impacts, considering wetlands, archeological, endangered species, etc. Seven (7) alternatives were considered based on the above siting criteria.

(1) No Action Alternative. This alternative involves permit denial. Under this scenario, the project would not be constructed and the project site would not be developed. Current local sources of paraxylene would need to shipped out of the area for conversion to polyethylene terephthalate by less efficient and higher pollution emitting facilities. The local economy would not benefit from the generation of 250 direct permanent jobs that would work at the facility or the increased productivity of the Corpus Christi industrial base. Additionally, the potential to create a backup electricity source utilizing the cogeneration facility would be lost. Finally, this alternative is not practicable with respect to meeting the applicant's stated purpose of meeting the demand to supply M&G clientele with industrial plastic resin at an economically viable price utilizing new environmentally friendly processes. The Corps found this to not be the least environmentally damaging practicable alternative.

(2) Offsite Alternative 1. Flint Hills Resources Site. This offsite alternative is located in-between Interstate 37 and McKinze Road, bordered to the west by the Veterans Memorial Cemetery and Flint Hills Resources to the east. This alternative is of sufficient size (250 acre tract), has access for semi-truck shipping, has access to the local paraxylene market, and no overhead power lines to hinder construction. Impacts to federally protected species are not anticipated due to construction or operation at this site. However, the site lacks access to ocean or railway shipping, lacks secure easy access to large volumes of water (for industrial process purposes), and contains an existing pipeline (which complicates facility design). Other negative features include the presence of sensitive emission receptors in the area (cemetery and school to the south of IH 37) along with approximately 3.2 acres of wetlands as well as approximately 3,300 linear feet of ephemeral/intermittent stream bed. Additionally, three known archeological sites are present onsite.

Offsite alternative 1 does not meet project goals and objectives because it lacks many of the siting criteria. The water for industrial processes could be piped in; however, the construction of additional pipelines would be at a higher cost than the preferred alternative. Transportation by waterways would not be met as there are no plans to extend the Viola Channel at this time. Design and construction of the facility at this location would be complicated by either incorporating the existing pipeline or moving it outside the project foot print. The nearby sensitive receptors (e.g. cemetery and the school) are not planned to be relocated; therefore, plant operations and emissions design would become problematic. Lastly this alternative contains a known

archeological site that would require additional archeological study and collection prior to site development. This alternative was determined by the applicant to have substantial limitations in needs, cost and design that limits project feasibility when compared to the applicant's preferred alternative. This alternative was found to not be the least environmentally damaging practicable alternative.

(3) Offsite Alternative 2. Rincon Site. This offsite alternative is located near the junction of Nueces Bay and Corpus Christi Bay on the south shoreline approximately 1,000 feet west of State Highway 35/Nueces Bay Causeway. This alternative has access for railway, semi-truck, and ocean going shipping opportunities, allows for the potential use of desalinated process water, and has no overhead power lines or underground pipelines to hinder construction. Additionally, nearby wetlands do not appear to extend onto the site or within the construction area. Impacts to cultural resources are not anticipated since this property was built by the placement of dredged material from the ship channel onto what was once submerged or very low lying land. Impacts to federally protected species are not anticipated due to existing and ongoing construction or operation at this site. However, the site is relatively small (66 acres), requires significant pipeline construction to access available paraxylene sources, and has several nearby sensitive emission receptors in the area including residential areas as well as tourist areas near the causeway.

While this alternative does exhibit some positive characteristics in regards to accessing various shipping venues, access to process water, and lack of existing onsite structures that might hinder construction, the property is simply too small to safely construct and operate all of the required infrastructure necessary with this project. Additionally, nearby sensitive receptors (residences and tourist areas) are not planned to be relocated; therefore, plant operations and emissions design would become problematic. This alternative was determined by the applicant to have substantial limitations in needs, cost, and design, which limits project feasibility when compared to the applicants preferred alternative. This alternative was found to not be the least environmentally damaging practicable alternative.

(4) Onsite Alternative 1. Avoidance of Impacts to Wetlands Onsite. The proposed site layout results in the least amount of impacts to onsite wetlands possible. The applicant is proposing to construct the majority of the project to the south of the Trade Corridor. Total wetland acreage within the entire property (north and south of Carbon Plant Road) is approximately 214 acres. The majority of wetlands (170 acres) is located between the Carbon Plant Road and Nueces Bay to the north. By constructing the majority of the project to the south of the Carbon Plant Road, the applicant has avoided and minimized potential impacts to wetlands onsite. Some additional avoidance measures have been accomplished by the placement and layout

of the permanent material, tools, and equipment storage area in the northern portion of the property.

Locating the vast majority of the project to the south of the Trade Corridor, while avoiding most wetland areas, will result in impacts to approximately 42.4 acres of wetlands within the southern portion of the property. Additional avoidance measures within the southern tract are not feasible. The proposed project layout is the minimum necessary to construct the facility with the necessary associated infrastructure located in an appropriate and safe manner. Extensive facilities are needed and planned for the site and will cover the totality of the south tract. Storage areas, control room facilities, parking areas, desalination plant, intake/outfall structures, electric power generation station and the flare area must be onsite and comply with minimum separation requirements for personnel safety. Furthermore, maintenance procedures require an aggressive program to control storm water/wastewater and lost polyethylene terephthalate (PET) pellets. The filling of any and all wetland depressions within the south tract not directly impacted by construction of the facility will be necessary to facilitate the capture and removal of storm water/wastewater and lost PET pellets. As such, constructing onsite without the proposed wetland impacts is not a viable option.

The alternative of avoiding additional onsite wetlands results in a site location of insufficient size, (120-acre tract) when coupled with the constraints of the onsite underground pipeline and above-ground transmission line. This alternative does not allow the applicant to meet project goals or objectives or satisfy the siting criteria. This alternative was determined by the applicant to have substantial limitations when compared to the applicant's preferred alternative. This alternative was not found to be the least environmentally damaging practicable alternative.

(5) Onsite Alternative 2 (Applicant's Preferred Alternative). The preferred alternative is generally located in-between Viola Ship Channel and the Joe Fulton Trade Corridor. A small portion of the project area extends slightly north to the area in-between the Trade Corridor and Nueces Bay. Dredge Material Placement Area C is located immediately east of the property while the PCCA Nueces River Rail Yard is located immediately west of the property.

This preferred alternative is sufficient in size (400-acre tract), has access to railway, semi-truck, and ocean-going shipping opportunities, access to large stable quantities of desalinated process water, access to local paraxylene sources, and is sufficiently distant from sensitive environmental receptors. Impacts to cultural resources are not anticipated since this property was built by the placement of dredged material from the ship channel onto what was once submerged or very low-lying land. Impacts to federally protected species are not anticipated due to existing construction or commercial operations at this site.

Negative characteristics of the property include the presence of an underground pipeline and an above-ground transmission line. However, both constraints can be overcome due with the large extent of the property. Another negative quality of the site is the presence of 45.9 acres of wetlands within the project footprint.

The preferred alternative allows the applicant to meet project goals and objectives while still satisfying the majority of the siting criteria. While 42.8 acres of wetland will experience total permanent impact, it should be noted that use of desalinated water from the ship channel will negate the need for additional withdrawals from the Nueces River (major freshwater source for the area) associated with this project and thus avoid impacts to potentially even larger areas of wetlands due to reduced or non-existent flows in affected reaches of the Nueces River. This alternative was determined by the applicant to have fewest limitations and greatest chance for success when compared with the other alternatives. This alternative was found to be the least environmentally damaging practicable alternative.

b. Environmental Setting. The Nueces-Corpus Christi Bay system is one of the seven major estuarine systems in the State of Texas. The largest bay in this system is Corpus Christi Bay at 95,997 acres, Nueces Bay is next largest at 19,518 acres, Oso Bay covers 17,095 acres, and Redfish Bay is the smallest bay in this system at 5,258 acres. Freshwater inflow, which strongly influences estuarine productivity, enters into the Corpus Christi Bay system from the Nueces River and Oso Creek. Corpus Christi Bay is the deepest of these four bays, with an average depth of 11 feet. The three other bays average about two to three feet in depth. The CCSC is a dominant feature north of the project site and is a 45-foot deep shipping channel approximately 32 miles long that crosses Corpus Christi Bay to connect the Gulf of Mexico. The CCSC enters from the Gulf of Mexico through two rubble stone jetties at Port Aransas, traverses Corpus Christi Bay and is the largest navigation channel located in Corpus Christi Bay. It enhances the exchange of water between both Corpus Christi Bay and Aransas Bay (via the Lydia Ann Channel) and the Gulf of Mexico through tidal currents. The project area is the inner harbor of the CCSC which is was dredged in 1934 to Avery Point, and then extended three years later to Tule Lake. In 1958 the CCSC was extended (Viola

Channel) to the Viola Turning Basin at the Suntide Refining Company. Areas proposed for maintenance dredging have already been significantly altered and there are virtually no opportunities for the establishment of seagrasses or oysters due to water depths. The CCSC banks are typically bulkheaded or moderately steep with eroded bank materials at the base. Inner harbor channel depths are maintained at minus 45 feet and channel widths 300 to 400 feet wide, not including the wider turning basins. There are numerous confined placement areas on both sides of the channel, but mostly on the north side. Most of the docks and industrial users are on the south side of the channel, except near the harbor entrance where several oil docks are located and west of the former Tule Lake Bridge where three bulk material docks are located on the north side of the channel. The Corpus Christi Rincon Canal System is composed of several connecting channels constructed between 1967 and 1974. The main canal is a channel measuring 100 feet in width, 12 feet in depth, and 14,256 feet in length, and connects the CCSC to the Rincon Industrial Park.

c. Environmental Impacts. The possible consequences of this proposed work were studied for environmental concerns, social well-being, and the public interest, in accordance with regulations published in 33 CFR 320-332. All factors, which may be relevant to the proposal, must be considered. The following factors were determined to be particularly relevant to this application and were evaluated appropriately, as they relate to the least environmentally damaging practicable alternative described in the alternative analysis section.

(1) Historic and Cultural Resources. Two separate reviews were conducted, one for the project area and one for the mitigation areas. The project area was reviewed by the Corps staff archeologist on 24 January 2014 and stated: The National Register of Historic Places has been consulted and no properties are listed in the permit area. In addition, the permit area has been so extensively modified that the proposed project has no potential to affect a Historic Property. SHPO concurred with the staff archeologist's determination on 24 February 2014. The mitigation areas were reviewed by the Corps staff archeologist on 9 July 2014 who stated: The National Register of Historic Places has been consulted and no properties are listed in the permit area. In addition, the permit area has been so extensively modified that the proposed project has no potential to affect a Historic Property.

(2) Water Quality. Temporary turbidity is probable during construction, resulting in minimal damage to fish and wildlife habitat and other biota. The proposed mechanical dredging will temporarily impact benthic organisms. However, once jetting/dredging is completed, these organisms will quickly reestablish. Stormwater runoff from construction sites will result in a minimal adverse impact to surface water quality, so long as best management practices are implemented. No lasting water pollution will occur.

(3) Endangered Species. Informal consultation for Threatened and Endangered Species was initiated with the USFWS (Service) on 4 February 2014 (public notice) and with NMFS on 1 May 2014 (submittal of informal consultation request).

USFWS Consultation Summary
The project area does not contain critical habitat for any federally listed threatened or endangered species; however, brown pelican (*Pelecanus occidentalis*), Eskimo curlew (*Numenius borealis*), northern aplomado falcon (*Falco femoralis septentrionalis*), piping plover (*Charadrius melodus*), red knot (*Calidris canutus rufa*), Sprague's pipit (*Anthus spragueii*), and whooping crane (*Grus americana*) have the potential to occur in the project area, due to the presence of suitable foraging habitat within or near the project area, but the construction of the project is not likely to adversely affect these species. Additionally, black bear (*Ursus americanus*), Louisiana black bear (*Ursus americanus luteolus*), gulf coast jaguarondi (*Herpailurus yaguarondi cacomitli*), and ocelot (*Leopardus pardalis*) have potential to occur within or near the project area due to the minimal presence of suitable foraging habitat, but the construction of the project is not likely to adversely affect these species. Finally, the construction of the project will not affect nesting turtles including Atlantic hawksbill sea tmile *(Eretmochelys imbricata),* the green sea turtle *(Chelonia mydas),* the Kemp's ridley sea turtle *(Lepidochelys kempii),* the leatherback turtle *(Dermochelys coriacea),* or the loggerhead sea turtle *(Caretta caretta)*

The following measures are proposed to prevent or minimize potential adverse effects to threatened and endangered species to the extent practicable.

1. Construction will be limited to daylight hours.
2. Once complete, all areas will be restored to pre-construction conditions.
3. The project has been sited in areas that avoid suitable habitat and limit activities to areas that are less desirable to most wildlife.
4. Construction is anticipated to occur outside of the migration period for the whooping crane. If construction is delayed and must occur during whooping crane migration, M&G will lower, to all extents practicable, any equipment greater than 15 feet in height during the non-working evening hours.

5. Personnel will be trained on a no-approach and no-kill policy toward all wildlife.
6. Personnel will receive training in recognizing the whooping crane.
7. Should a whooping crane fly through or stop over within 1,000 feet of active construction areas, construction activities will cease until the whooping crane departs.
8. Upon start of construction, educate construction workers and staff on potential endangered species in the area, including species identification, habitat, and measures to avoid or minimize impacts.
9. Mark transmission lines, during the construction and design if such lines are necessary.
10. If possible, lower construction cranes and other tall work equipment at night, or flag them to prevent collisions by whooping cranes.
II. Work activity will be suspended if whooping cranes are observed within 1,000 feet of an active construction site.
12. Onsite treatment of wastewater per TCEQ permit rules will serve to prevent potential impacts to piping plovers, whooping cranes, manatees, and the sea turtles from acidification or eutrophication of aquatic habitats.
13. Adherence to the March 23, 2006, NOAA Sea Turtle and Smalltooth Sawfish Construction Conditions.
14. Notify the Service's Corpus Christi Ecological Services Field Office (361-994-9005) or Matagorda Island National Wildlife Refuge if an endangered species is observed or impacted within the project area.
15. Project construction and operations employees will (a) be advised that manatees may approach the proposed project area (b) be provided materials, such as a poster, to assist in identifying the mammal, (c) be instructed not to feed or water the animal, and (d) be provided the appropriate contact numbers for the Service in case a manatee is sighted.

In a letter dated 30 June 2014 the Service agreed that with the implementation of the conservation, avoidance and minimization measures noted above, the likelihood of an impact occurring to the brown pelican, Eskimo curlew, northern aplomdo falcon, piping plover, red knot, Sprague's pipit, whooping crane, West Indian manatee, black bear, Louisiana black bear, gulf coast jaguarundi, and ocelot from the construction of the project is insignificant and discountable. The Service, therefore, concurs with the Corps determination that the project may affect, but is not likely to adversely affect these 12 species.

NMFS Consultation Summary
The Corps determined that leatherback, hawksbill, green, Kemp's ridley, and loggerhead sea turtles may be present in the Viola Channel and that the proposed work (dredging and construction) may affect, not likely to adversely **Affect** any of the turtle species or their critical habitats.

In a NMFS letter received 19 June 2014, we were informed that based upon life histories and habitat preferences of leatherback and hawksbill sea turtles, that NMFS does not believe that either species will occur in the project areas. NMFS does believe green, Kemps ridley, and loggerhead sea turtles may be present in the action areas affected by the project. Sea turtles could be affected by dredging activities for the creation of the intake and outfall canals for the M&G facility; however, NMFS stated they believe this effect is discountable as it is highly unlikely a sea turtle will interact with a long-arm excavator. Sea turtles are mobile and can easily avoid slow moving machinery. Given that this is a highly industrialized waterway, resources are expected to minimal and any avoidance of the area will have only insignificant effects.

NMFS concurred with the project-effect determination that the proposed actions are not likely to adversely affect green, loggerhead, and Kemp's ridley sea turtles. No conservation measures were added.

(4) Fish and Wildlife Values.
The proposed project will impact 42.8 acres of fish and wildlife habitat located in between the Corpus Christi Inner Harbor – Viola Channel and the Nueces River at the project site. To mitigate for the loss of functions and values of fish and wildlife habitat, the applicant will provide compensatory mitigation on two off-site areas.
The mitigation plan consists of two tracts totaling 392.2 acres. Tract 1 is 317.7 acres in size and Tract 2 is 74.5 acres. The permittee responsible mitigation plan will provide 223.7 acres of wetland mitigation (i.e., re-establishment, enhancement, and preservation), will offset the mitigation requirements for a maximum of 50.7 acres of unavoidable wetland impacts, and exceeds the project wetland impacts of 42.8 acres by 7.9 acres. Furthermore, the re-establishment and enhancement mitigation acreage will provide 44.6 acres, which also exceeds the project impacts by 1.8 acres. Including preservation, the overall ratio of mitigation acres to unavoidable wetland impacts provided by the plan is 5.2:1. Without preservation, the ratio of mitigation to impact acres is 3.5:1. The successful implementation of the proposed mitigation plan should offset the loss of functions and values of the proposed project impacts to fish and wildlife.

(5) Essential Fish Habitat (EFH). Approximately 0.7 acre of impacts to EFH will occur as a result of dredging and construction of intake and outfall structures by the proposed project. However, we have determined, through our coordination with the National Marine Fisheries Service, that the adverse effects to EFH are minimal.

(6) Wetlands/Special Aquatic Sites. The proposed project will impact 42.8 acres of wetlands located in between the Corpus Christi Inner Harbor – Viola Channel and the Nueces River at the project site. The project site consists of a Corps dredge management placement area, that was abandoned prior to the year 2000. The abandonment led to the naturalization and formation of wetlands on site. The primary reason why wetlands formed in this location was due to a lack of adequate drainage on the project site. These wetlands can be characterized as palustrine emergent wetlands and are dominated by *Distichlis spicata*, *Borrichia frutescens*, *Andropogon glomerata*, and *Symphyotrichum divaricatum*.

Computation of mitigation requirements was done by the ratio method as the HGM/iHGM are not applicable in these types of aquatic resources. The impacted wetlands were determined by the applicant to be of medium quality based upon visual assessment and geomorphic/landscape position. As such, they proposed the following mitigation ratios for unavoidable impacts; Restoration - 3:1, Enhancement - 5:1, and Preservation - 12:1.

To mitigate for the loss of functions and values of the 42.8 acres of wetlands, the applicant will provide compensatory mitigation on two areas. The mitigation plan consists of two tracts totaling 392.2 acres. Tract 1 is 317.7 acres in size and Tract 2 is 74.5 acres. Tract 1, located off-site, will consist of 109.8 acres of saline wet prairie restoration (3:1 ratio compensates 36.6 acres) and 40.1 acres of saline wet prairie enhancement (5:1 ratio compensates 8.0 acres). Tract 2, located adjacent to the project site, will consist of 73.8 acres of intertidal wet marsh preservation (12:1 compensates 6.2 acres). The mitigation plan compensates for impacts to 42.8 wetlands and provides an additional 8 acres of wetland compensation over the mitigation ratios. The successful implementation proposed mitigation plan will offset the loss of functions and values of the proposed project impacts.

(7) Shoreline Erosion and Accretion. The project will only affect the shoreline of the Viola Channel where the proposed intake and outfall pipe are located. Best management practices will be implemented during the construction and the shoreline, in the areas of the intake/outfall, will be stabilized to prevent erosion. Only minimal shoreline erosion and accretion is anticipated from the project.

(8) Recreation. The project site is located in a highly industrialized area along an industrial waterway, as such, recreation is minimal. However, the mitigation plan includes 392.2 acres of land that will protected in perpetuity by the Coastal Bend Bays and Estuaries Program (CBBEP). CBBEP mission is to preserve, protect and educate the public about natural resources. As a result; the recreational value of the area will be enhanced by the proposed project.

(9) Aesthetics. The project is similar to other projects in the surrounding area. The surrounding area is the Corpus Christi Inner Harbor, which is a highly industrialized area. The proposed work will have a temporary minimal adverse impact upon the aesthetic value of the site caused by the presence of construction equipment and machinery. However, the construction methodology will be similar to that used during the construction of other facilities in the area. There will be no more than minimal affect on the aesthetics of the area.

(10) Land Use. There are no known land use classifications or coastal zone management plans that would adversely affect the project. The land use in the project area is industrial and undeveloped.

(11) Navigation. Navigation occurring in the area will not be adversely affected by this project as most of the construction activity occurs out of navigable waterways. The exception is the dredging of 0.7 acre of the Viola Channel and the construction of an intake and outfall structure.

(12) Federal Projects. The project is located along a Federal Navigation/Flood Control Project and has been coordinated with the Operations Division/Navigation Branch/Programs and Project Management Division/Real Estate Division. Two internal reviews were conducted for the project. The first (dated 24 January 2014) covered the project site, equipment laydown yard, pipeline route, and the areas of the intake and outfalls. The second (dated 8 July 2014) included additional details about the intake and outfall structures, the discharging of 30,000 cubic yards of sand and clay into PCCA DMPA C, and the mitigation tracts.

During the first review Operation Branch referred the project to Operations and Maintenance to check for impacts to Federal Projects. No further correspondence was received.

During the first internal review the Real Estate Division stated: “there are no USACE RE tracts nor placement areas within this IR request;” however, in response to the second internal review the Real Estate Division commented that: “Initial review of this request indicates USACE real estate interests may be affected. A realty specialist will need to

determine what, if any, additional real estate actions are needed for this IR. Permits may be issued subject to RE clearance with the following statement:

This permit does not authorize any injury or interference with any Federal property; nor does it grant property rights, access privileges, or rights-of-way entrance authorizations to any property including those owned by State or Federal agencies. There are Federal properties (owned OR CONTROLLED by Corps of Engineers) identified within the project area. All appropriate accesses, authorizations, rights-of-way on the Corps Federal project area must be procured from the Corps Real Estate Division prior to impacting any of these Federally-owned/operated lands. This Permit authorization is limited to those impacts exactly as depicted. If property access and/or use is denied and/or requires modification to the project as permitted, this authorization becomes null and void and would require a new authorization to adequately address these new impacts. Please visit the USACE Galveston District's website for the most current information regarding the District's outgrant policy at http://www.swg.usace.army.mil/BusinessWithUs/RealEstateDivision/Outgrants.aspx."

The statement listed above will be added to the text of the final letter.

(13) Conservation. The mitigation plan includes 392.2 acres of land that will protected in perpetuity by the Coastal Bend Bays and Estuaries Program (CBBEP). CBBEP mission is to preserve, protect and educate the public about natural resources. The project will have a positive impact on conservation in the area.

(14) Floodplain Values. Portions of the project site are located within the mapped 100-year floodplain of the Nueces River. Floodplains possess natural values and carry out numerous functions important to the public interest. These include: natural moderation of floods, water quality maintenance, groundwater recharge, fish/wildlife/plant resources, open space, natural beauty, scientific study, and recreation. The project encompasses an area that previously was a Corps dredged management placement area. As a result of its abandonment wetlands have formed within it. Although the project site is partially located within the 100-year floodplain of the Nueces River, its highly altered state (not natural) has an effect on the functions it performs. The project area serves to hold storm water after high rainfall events, which allows for the settling of pollutants. It contains fish/wildlife/plant resources and open space, but due to the highly altered state of the site and its proximity to industrial facilities, these benefits are minimal. The floodplain values that would be lost at the project will be minimal and the preservation of the approximate 392 acres in the Nueces River Watershed will mitigate the remaining values.

(15) Safety. Appropriate signage and lighting may be required by the Coast Guard and/or harbor master. The permittee will be responsible to install and maintain those devices as directed by the appropriate jurisdictional authorities.

(16) Energy Needs. The project is not one that will provide oil/gas products for consumption by the public. This project is not one that will contribute toward satisfying a portion of the Nations' energy requirements.

(17) Floodplain Hazards. Approximately 200 acres will be removed from the 100-year floodplain of the Nueces River as a result of the project (FEMA FIRM Panel 4859490303C published on 18 Mar 85). The project site will be elevated by the adding of material for the construction of the building foundation. The permittee will be responsible for coordination with FEMA to address, and if necessary, mitigate floodplain loss. The project is not anticipated to adversely affect floodplain values.

(18) Economics. This project will positively impact the economics of the State of Texas and the nation. The production of plastic resins using cost effective and environmental favored process will benefit the state and nation by the receipt of tax revenue from the sale of product. Furthermore, the facility will create 250 local jobs that will benefit the local, state and national economy.

(19) Water Supply and Conservation. The project will incorporate an on-site desalinization facility to supply water for industrial purposes. The proposed plastic resins facility will require 6 million gallons of water per day for operation. Discussions with the City of Corpus Christi indicated that this level of need would be extremely taxing on the City's available water supply. In an effort not create potential water supply issues, M&G determined that a saltwater desalinization plant utilizing water from the ship channel was the best option. To this end, approximately 16 million gallons of water will be pumped per day from the ship channel to supply the water needed by the plant. The project will have a positive effect on the water supply by conserving existing water supplies. The TCEQ is responsible for permitting, under Section 402 of the Clean Water Act, the discharge of the brine that will be created by the desalinization plant. Elevated salinities within the Inner Harbor are expected; however, TCEQ is responsible for ensuring the discharge does not violate state and federal laws.

(20) Air Pollution. The project is exempt because it is located within Nueces County, a county that is in attainment for all listed pollutants; furthermore, the construction of the project would not create a situation where air pollution would exceed the de minimis level. The project would not have more than a minimal adverse effect on air quality.

(21) Food and Fiber Production. The project is not one that effects food and fiber production, as the project site has not, in recent history, contributed to food and fiber production. The project would not have an effect on food and fiber production.

(22) Mineral Needs. The project is not one that effects mineral needs, as the project site has not, in recent history, contributed to mineral needs. The project would not have an effect on mineral needs.

(23) Other Federal, State, or Local Requirements. All required Federal, State, and/or local authorization or certifications necessary to complete processing of this application have been obtained except for water quality certification and coastal zone consistency certification.

This project is considered a Tier II project. The Texas Commission on Environmental Quality (TCEQ) has not yet acted on the applicant's request for water quality certification under Section 401 of the Clean Water Act. The Corps will provide the TCEQ with a copy of this permit decision document when finalized. The final permit decision document will contain the environmental assessment and mitigation and §404(b)(1) analysis. The TCEQ will then make its determination whether the project will comply with state surface water quality standards in accordance with Section 401 of the Clean Water Act. The Corps will provide a permit decision to the applicant when the following procedures have been completed. The TCEQ will either provide its certification decision (issuance or denial) to the Corps, or request an extension from the Corps within 10 working days from receipt of the Corps decision document. If the TCEQ does not provide a certification decision or request an extension within the 10 day period, the Corps will presume waiver of certification in accordance with 33 CFR 325.2(b) and proceed with the issuance or denial of the permit. If TCEQ requests an extension of time, the Corps will determine the merit of the time extension request and the length of the extension based on 33 CFR 325.2(b) and notify TCEQ of its intended decision. If the Corps decides to deny or modify a request for extension, TCEQ will have 10 working days from the date it is notified of the intended action of the Corps on the request for extension in which to either certify or deny certification.

(24) Other Factors Considered. All of the 22 factors were considered during the evaluation process.

d. Cumulative & Secondary Impacts. An assessment of cumulative impacts takes into consideration the consequences that past, present, and reasonably foreseeable future projects had, have, or will have on an ecosystem. Every permit application must be considered on its own merits. Its impacts on the environment must be assessed in light of historical permitting activity, along with anticipated future activities in the area.

Although a particular project may constitute a minor impact in itself, the cumulative impacts that result from a large number of such projects could cause a significant impairment of water resources and interfere with the productivity and water quality of existing aquatic ecosystems.

Cumulative impacts can result from many different activities including the addition of materials to the environment from multiple sources, repeated removal of materials or organisms from the environment, and repeated environmental changes over large areas and long periods. More complicated cumulative effects occur when stresses of different types combine to produce a single effect or suite of effects. Large, contiguous habitats can be fragmented, making it difficult for organisms to locate and maintain populations between disjunctive habitat fragments. Cumulative impacts may also occur when the timings of perturbations are so close in space that their effects overlap.

The area in which impacts resulting from the proposed project will be felt will be confined to the CCSC inner harbor area and surrounding tracts. The impacts that are expected in that area from the proposed project are the filling of 42.8 acres of palustrine emergent wetlands formed incidental to the abandonment of a DMPA and temporary impacts to benthic populations and temporary turbidity associated with the dredging of Viola Channel for the construction of the intake and outfall structures. The 204-acre project site contains 45.9 acres of wetlands of which 42.8 acres will be filled (93%) for construction of plastic resin facility and 1.4 acres of un-vegetated tidal waters within the Viola Channel of which all 1.4 acres will be dredged removing 15,000 cubic yards of sand and clay for the construction of the intake and outfall structures. The proposed project is typical of industrial facilities except of the incorporation of an on-site desalinization plant when compared to other projects constructed in major industrial port area. Development similar to the proposal has occurred since prior to 1950. Key issues of concern in this watershed are water quality.

The impacts that are expected in that area from the proposed project include filling of emergent wetlands and dredging un-vegetated open waters. Avoidance and minimization methods proposed for this project include: 1) Construction of the plastic resins facility in an existing industrial area instead of a Green Field site that would likely result in impacts to naturally derived wetlands with greater diversity and function; 2) Construction of the plastic resins facility on portions of M&G property (within the above industrial area) with the least extent of waters of the U.S. versus other portions of the M&G-owned property; 3) Construction of the permanent materials, equipment, and tool storage area generally on upland portions of a wetland dominated area; 4) Avoidance of approximately 50% of wetlands within the initially proposed permanent materials, equipment, and tool storage area boundary; 5) Avoidance of construction of erosion control methods such as articulated matting within and along the ship channel

that could impact estuarine wetlands in those areas; 6) Utilization of directional drilling to avoid impacts to waters of the U.S. traversed by associated infra-structure (i.e. paraxylene pipeline; 7) Employment of temporary and permanent storm water control structures to capture and control the flow of storm waters offsite; 8) Use of desalinated process water to utilize saltwater from the ship channel instead of encroaching upon already overtaxed freshwater supplies in the Nueces River that supports thousands of acres of naturally derived wetlands as well as many federally listed endangered or threatened species; 9) Utilization of a site that will have no direct impact to any federally listed endangered or threatened species; 10) Utilization of a site that will have no impact to significant cultural resources of the Corpus Christi area; 11) Utilization of a site that will not impact prime farmland; and 12) Use of sophisticated industrial processes to take locally developed excess paraxylene, which would normally be shipped to other locations, to produce plastic resins in a more environmentally friendly and economically viable way at such levels as to render other existing less environmentally friendly facilities obsolete. Compensatory mitigation is proposed to offset impacts to jurisdictional areas. The proposed mitigation plan includes, two tracts totaling 392.2 acres. Tract 1 is 317.7 acres in size and Tract 2 is 74.5 acres. Tract 1, located off-site, will consist of 109.8 acres of saline wet prairie restoration (3:1 ratio compensates 36.6 acres) and 40.1 acres of saline wet prairie enhancement (5:1 ratio compensates 8.0 acres). Tract 2, located adjacent to the project site, will consist of 73.8 acres of intertidal wet marsh preservation (12:1 compensates 6.2 acres). The mitigation plan compensates for impacts to 42.8 wetlands and provides an additional 8 acres of wetland compensation over the mitigation ratios. Compensatory mitigation requirements include monitoring for success criteria and temporal off-sets for functional losses that occur as a result of this project. Mitigation and monitoring requirements will result in a no net loss of aquatic resources within this watershed.

Other past actions that have had impacts in the same area are development of commercial marine facilities along the coastline of the POCCA's Inner Harbor and within adjacent tracts. The impacts from these actions are: dredging for navigation access that has resulted in greater open water area and deeper water depths; armoring and backfilling shoreline areas, which has resulted in loss of shallow water coastal habitat and increased reflective wave energy that would tend to scour the shoreline; construction of docking structures along the shoreline that shade the waters beneath them and filling of wetlands for the construction of industrial facilities. Resulting natural resource changes and stresses include an increase of open water area and impervious surface, loss and/or prevention of formation of shallow water habitat, including coastal fringe wetlands, seagrasses, and oyster reefs and loss of palustrine emergent wetland on the adjacent tracts. These resources are also being affected by rising sea level and increased coastal development.

Past or present actions include the:
- Corpus Christi Ship Channel 45-foot Project
- Joe Fulton International Trade Corridor
- Other Actions authorized by USACE Permits

Reasonably foreseeable future actions:
- Corpus Christi Ship Channel Improvement Project (CCSCIP)
- Port of Corpus Christi maintenance dredging projects
  Plains All American Pipeline LP
  CCI Corpus Christi
- Other Pending Corps Permits for Large Dredge or Fill Activities

The following projects were not considered in the evaluation of foreseeable future due to project uncertainty or did not have any documents available. Impacts from these projects were not addressed due to the lack of available information:

- Safeharbor Project
- State of Texas Regional Water Plan for Region L

It is difficult to determine what impacts will occur in the future; however, it is reasonable to assume that the Corps' Regulatory program or another regulatory agency will be involved in the evaluation of future impacts.

Individual Project Evaluation

Specific past, present, and reasonably foreseeable project impacts were evaluated from descriptions, information, and analysis presented in USACE EISs, USACE permits and ORM2/RAMS database, FERC and USCG EISs, other agency documents and project information readily available from on-line sources. No attempt was made to verify or update published documents. In addition, no field data were collected to verify project impacts described in reviewed documents. Mitigation outlined in individual project documents may be in place or proposed. This analysis recognizes that some of the projects assessed are undergoing revisions that may alter their environmental impact. This analysis relied only on existing published documents. If acreage was available, it was summed for each habitat to obtain a cumulative acreage impact. It should be noted that because of the diverse mix of documents that were reviewed for cumulative impacts and because of the fact that not all documents used the same definitions or even the same categories of resources, it was sometimes necessary to lump or modify categories so that the quantities in this section may not be exactly comparable with those presented in the Section d. Environmental Impacts of this EA/SOF. However, every attempt has been made to make this section internally consistent, so that all projects included in Cumulative Impacts are evaluated comparably.

PAST OR PRESENT ACTIONS

Corpus Christi Ship Channel 45-Foot Project

The existing channel extends from deep water in the Gulf of Mexico through a jettied entrance channel in Aransas Pass to Harbor Island and across Corpus Christi Bay to the land-locked channel south of Nueces Bay where this permit action is proposed. A branch channel to La Quinta extending from the main channel along the north shoreline of Corpus Christi Bay is included in the project. The CCSC is a consolidation of past improvements of Port Aransas and the channel from Aransas Pass to Corpus Christi. The CCSC system also includes La Quinta Channel, Jewell Fulton Channel, and Rincon Canals. In 1968 authorization of major improvements to the CCSC included increasing existing channels and basins to 45-foot depth. The 45-foot project was completed in 1989.

The 45-foot project provides maintenance dredging of the CCSC to authorized dimensions. Maintenance dredging of the federal project channel is required periodically to insure sufficient carrying capacity in the channels for efficient and safe movement of commercial navigation. The outer bar and jetty-channel to Harbor Island are normally maintained by a hopper dredge, with the dredged material placed in a designated open water placement area in the Gulf of Mexico. The remaining portions of the CCSC are maintained by hydraulic pipeline dredge and materials placed in upland confined DMPAs, confined placement areas, and open-water placement areas in Corpus Christi Bay. This proposed permit action in the inner harbor provides for additional dredging of the dock areas that are contiguous with, but outside the federal channel. Construction of the CCSC outside the inner harbor has resulted in a loss of shallow bay bottom habitats and increased salinity through conversion to deep-water navigation channels. Construction of numerous DMPAs has resulted in loss of bay bottom as well. Maintenance dredging the existing project results in temporary increases in turbidity and mortality of benthic organisms during dredging and disposal operations.

Joe Fulton International Trade Corridor (USACE Permit #22534)

The Joe Fulton International Trade Corridor (JFITC) is an intermodal project connecting road, rail and marine traffic between IH 37 and US 181. The proposed project area is located along the Port of Corpus Christi Inner Harbor in Nueces County, Texas, and is located north of the City of Corpus Christi, south of Nueces Bay, and west of Corpus Christi Bay. Construction began in June 2004 and has been completed in 2008. The project features include construction of 11.5 miles of a two-lane roadway and 7.0 miles of railroad corridor approximately, parallel to a portion of the proposed roadway that

improves access to over 2,000 acres of land along the north side of the channel for existing and future development. The corridor makes approximately 1,000 acres of land (which has no access) available for use as marine terminals and industrial sites. The project requires placement of fill into 9 acres of unvegetated, hypersaline mudflat and approximately 3 acres of wetlands. The mitigation plan included creation of approximately 6 acres of shallow water habitat comprised of tidal channels, islands, and shallow water flats.

The new rail link provides alternative service to the north bank area, eliminating the need for all rail traffic to pass over the Tule Lake Lift Bridge which was demolished in 2008. The road would provide alternative routing for industrial vehicles between US 181 and IH 37 and POCCA facilities, thus eliminating the need for traffic to traverse the downtown Corpus Christi area and the Harbor Bridge. The route would provide an alternative for general traffic, including hurricane evacuation traffic from areas east of Corpus Christi Bay, independent of the Harbor Bridge.

Other Projects

Summary of Past/Present USACE Permits

An effort was made to document the number of USACE Galveston District permits issued and the number of acres of tidal and non-tidal wetlands authorized to be impacted as well as the number of acres of wetlands to be mitigated. Permits issued authorize various activities such as road construction, oil and gas development, piers, erosion control, marinas, utility lines, and dredge and fill activities associated with residential and commercial developments. Since the early 1990s permit information has been input into the Galveston District RAMS computer database. Prior to that time permit information is only available on microfiche. Starting in the mid 1990s information on acres of wetland impacts and mitigation authorized has been input into the RAMS database. A search of the RAMS database and ORM2 was conducted for permits issued to the POCCA, and those within the CCSC inner harbor. Based on the RAMS search results, 61 permits have been issued for various projects, including dock construction, bulkheads, mooring pilings, new dredging and maintenance dredging. ORM2 listed over 300 aquatic resources and actions within a 5-mile radius of the project site. Because these projects were confined to the inner harbor and established placement areas, apparent impact to wetlands and seagrasses were absent. A significant number of these authorizations were dredging or maintenance dredging.

REASONABLY FORESEEABLE FUTURE ACTIONS

Corpus Christi Ship Channel Improvement Project (CCSCIP)

The Galveston District proposes to deepen the Corpus Christi Ship Channel to improve efficiency and safety of the deep-draft navigation system. The CCSCIP consists of deepening the Corpus Christi Channel to 52 feet; widening the upper and lower bay reaches to 530 feet; adding 200-foot wide, 12-foot deep barge lanes parallel to 9.6 miles of the upper bay portion of the channel; and extending the La Quinta Channel for 1.4 miles at a depth of 39 feet and width of 300 feet. The CCSCIP beneficial uses of dredged material will result in the following: creation of 935 acres of shallow water habitat, creation of 15 acres of submerged aquatic vegetation (as mitigation), creation of 26 acres of marsh, construction of 26,400 linear feet of rock breakwater, creation of 1,590 acres of offshore topographic relief, construction of 120 acres of upland buffer zone, construction of 7,500 linear feet of rock revetment, protection of 45 acres of submerged aquatic vegetation, protection of an existing bird island, and protection of over 400 acres of wetlands. Channel enlargement will result in direct permanent and temporary losses to 5 acres of patchy submerged aquatic vegetation, which will be mitigated through creation of 15 acres of submerged aquatic vegetation. This project will also involve deepening of the POCCA's inner harbor and adjacent facilities, which will result in additional maintenance dredging and increased material deposited into dredged material placement areas.

Plains All American Pipeline LP

Plains All American Pipeline LP proposes to construct an import/export liquid terminal and storage facility that would accommodate AFRAMAX ships (830 feet by 145 feet) and Ocean Going Barges. The terminal would consist of a 165 foot by 16 foot pipe rack and a 215 foot by 20 foot access trestle, a 60 foot by 125 foot loading platform with fendering system, six mooring dolphins and up to five breasting dolphins. The proposed project would involve the dredging of a 16.3-acre area of open water to a depth of -46 ft Mean Low Tide (MLT). The dredging profile would consist of a gradual slope (3:1) to the newly established shoreline. The 3:1 slope would be armored with a revetment mattress consisting of articulating concrete blocks with a fabric underlay. The proposed dredging activity would hydraulically and mechanically remove a total of approximately 553,400 cubic yards of material from an approximately 16.3-acre area to a depth of -46 feet MLT, which would be placed in one of the following Dredge Material Placement Areas (DMPA): Tule Lake DMPA Cells A, B & C, Suntide DMPA, South Shore DMPA Cells A, B & C, DMPA No. 1, DMPA No. 4, DMPA No. 5, or the Herbie Mauer DMPA.

CCI Corpus Christi

CCI Corpus Christi proposes to construct an import/export liquid terminal and storage facility that would accommodate ships and ocean-going and inland barges. The

terminal would consist of three docks and associated mooring and breasting structures. The project would result in filling of approximately 31 acres of high marsh wetlands for the development of the condensate splitter. An additional 3 acres of emergent wetlands along the shoreline will be filled for the construction of docks.

The project structures will include nine (9) storage tanks 120 feet in diameter and 50 feet high, ten (10) storage tanks 180 feet in diameter and 50 feet high, two (2) tanks 250 feet in diameter and 50 feet high, a flare unit, three package sewage treatment systems (two are 10 feet by 10 feet and one is 15 feet by 30 feet), approximately 2 miles of roadways 30 feet wide, approximately 0.75 miles of dikes 22 feet wide, approximately 1,000 feet of steel pipe rack, three process units 300 feet by 200 feet, a five-bay truck loading area, various buildings (lab, maintenance shop, warehouse, control room) less than 100 feet by 150 feet each, and a cooling water tower.

The proposed project would involve the dredging of a 14.8 acre area of open water to a depth of -46 feet MLT. The dredging profile would consist of a gradual slope (3:1) to the newly established shoreline. Approximately 1,050 linear feet of steel sheet pile bulkhead would be placed landward of ship dock 2 to sustain the 3:1 slope due to the proximity of the existing roadway. The proposed dredging activity would hydraulically and mechanically remove a total of approximately 865,000 cubic yards of material. The applicant is proposing to place the dredged material into one of the following Dredge Material Placement Areas (DMPA): (1) Tule Lake DMPA – Cells A,B & C; (2) Suntide DMPA; (3) South Shore DMPA – Cells A,B & C; (4) DMPA No. 1; (5) DMPA No. 4; (6) DMPA No. 5; and/or (7) Herbie Mauer DMPA.

Future conditions within the study area are expected to be similar to the existing conditions. Projects will include compensatory mitigation to offset impacts to aquatic resources that will maintain the existing conditions. Reasonably foreseeable future actions that could affect these conditions/aquatic resources include construction of industrial developments, dredging, bankline stabilization, mooring facilities, and the expansion and maintenance of infrastructure features (roads, power lines, and oil and gas pipelines). It is likely that development will be focused in previously disturbed sites. Overall, projects with compensatory mitigation will not contribute to a cumulative effect on aquatic functions and values. As development continues it is likely that compensatory mitigation strategies will evolve to meet the dynamic needs of the system and the availability of the resources

When considering the overall impacts that will result from this project, in relation to the overall impacts from similar past, present, and reasonably foreseeable future projects, their cumulative impacts are not considered to be significantly adverse. Associated compensatory mitigation requirements for projects requiring a DA permit will help offset

such losses. It is likely we will receive similar projects in the future, which will go through a comparable review process. Overall, the project will result in minimal environmental impacts and minimal impacts on fish and wildlife values.

9. General Evaluation Criteria Under the Public Interest Review.

a. The relative extent of the public and private need for the proposed work: The project will create 1,000 short term construction jobs and 250 full time jobs that will directly benefit the local, state and national economy. Furthermore, the project will supply the demand for plastic resins using an environmentally preferred method.

b. The practicability of using reasonable alternative locations and/or methods to accomplish the objective of the proposed structure or work:
There are no unresolved conflicts regarding resource use. The applicant's preferred alternative has been found to be the least environmentally damaging practical alternative (LEDPA).

c. The extent and permanence of the beneficial and/or detrimental effects, which the proposed work is likely to have on the public and private uses which the area is suited:
Detrimental impacts are expected to be minimal although they would be permanent in the construction area. The project site will be permanently converted from an abandoned DMPA to an industrial facility. During the construction of the facility, there is a potential for a temporary turbidity and reduced water quality. Although unlikely, practical conservation measures to reduce the effects on threatened and/or endangered species will be implemented during construction of the facility. The impacts to fish and wildlife values and wetlands/special aquatic sites on the project site will be permanent; however, the compensatory mitigation plan serves to mitigate the value and functional losses. The project will result in minimal effects on recreation and aesthetics (since the area is an industrialized commercial waterway). Lastly, the construction of a new industrial facility will result in an increase to local traffic during construction.

The beneficial effects associated with the utilization of the property will be permanent. The project will have a positive effect on economics, creating 250 full time jobs which will benefit the local, state, and national economy. It will help conserve the City of Corpus Christi's already limited water supply by constructing an onsite desalinization facility. Finally, the mitigation plan will preserve and conserve 392 acres of natural habitat for future generations.

10. Coordination and Resolution of Comments.

a. Corps Internal Review Concerns. The proposed action was coordinated with Corps offices by Internal Review notice dated 24 January 2014 and 8 July 2014. The first (dated 24 January 2014) covered the project site, equipment laydown yard, pipeline route, and the areas of the intake and outfalls. The second (dated 8 July 2014) included additional details about the intake and outfall structures, the discharging of 30,000 cubic yards of sand and clay into Port of Corpus Christi DMPA C, and the mitigation tracts.

During the first review Operation Branch referred the project to Operations and Maintenance to check for impacts to Federal Projects. No further correspondence was received.

During the first internal review the Real Estate Division stated: "there are no USACE RE tracts nor placement areas within this IR request;" however, second internal review the Real Estate Division commented that: "Initial review of this request indicates USACE real estate interests may be affected. A realty specialist will need to determine what, if any, additional real estate actions are needed for this IR. Permits may be issued subject to RE clearance with the following statement:

This permit does not authorize any injury or interference with any Federal property; nor does it grant property rights, access privileges, or rights-of-way entrance authorizations to any property including those owned by State or Federal agencies. There are Federal properties (owned OR CONTROLLED by Corps of Engineers) identified within the project area. All appropriate accesses, authorizations, rights-of-way on the Corps Federal project area must be procured from the Corps Real Estate Division prior to impacting any of these Federally-owned/operated lands. This Permit authorization is limited to those impacts exactly as depicted. If property access and/or use is denied and/or requires modification to the project as permitted, this authorization becomes null and void and would require a new authorization to adequately address these new impacts. Please visit the USACE Galveston District's website for the most current information regarding the District's outgrant policy at http://www.swg.usace.army.mil/BusinessWithUs/RealEstateDivision/Outgrants.aspx."

The statement listed above will be added to the text of the final letter.
No responses were received from any other office.

b. Public Notice Coordination. The formal evaluation process began with publication of a 30-day public notice on 4 February 2014. The comment period for the public notice closed on 7 March 2014. Copies of the public notice were forwarded to concerned Federal, State, and local agencies, organized groups, individuals and navigation districts. These entities included but are not limited to the following:

U.S. Fish and Wildlife Service (FWS)
National Marine Fisheries Service (NMFS)
Environmental Protection Agency (EPA)
U.S. Coast Guard (USCG)
Texas Commission on Environmental Quality (TCEQ)
Texas Parks and Wildlife Department (TPWD)
Texas Historical Commission (THC)
General Land Office (GLO)
Nueces County Judges
Corpus Christi Mayor
Adjacent Property Owners:
Port of Corpus Christi Authority
Flint Hills Resources
Union Pacific Railroad

c. Response to the Public Notice.

(1) Federal Agencies.

The FWS responded by letter, dated 4 March 2014, stating that:
USFWS Comment 1 - No construction information has been provided for the pipeline in the PN.
USFWS Comment 2 - At the site visit on 20 February 2014, reference was made to a desalination facility that would be part of the project. Additional information is needed regarding intake and effluent for the desalination facility, salinity and temperature of the effluent, and an assessment of the environmental impact of the effluent.
USFWS Comment 3 - The size of the laydown yard is not included in the permit application. As proposed, the laydown yard is not water dependent. At the 20 February 2014 site visit, applicant representatives noted that use of the laydown yard after construction was not anticipated; therefore, the Service recommends that the applicant provide an analysis of alternative locations for the laydown yard that would not require filling jurisdictional and tidal wetlands. Additionally, the applicant should explain whether another, less damaging site, is available, and why the fill placed to create the laydown yard could not be removed and the wetlands restored to pre-project conditions following construction of the project.

USFWS Comment 4 - The purpose and function of Channel B is not addressed in the public notice, or whether impacts of this component have been included in the impacts of the project.
USFWS Comment 5 - The Service requests a summarization, possibly using a chart, that shows the impacts of the project's various components, including the main facility, the pipeline, the intake structure, the outfall structure, the laydown yard, and Channel B. The summary should include total acreage for each component, the upland acreage, the 404 wetland impacts (dredge and fill), the section 10 impacts (dredge and fill), temporary impacts (acres) and permanent impacts (acres).
USFWS Comment 6 - With regard to mitigation for the proposed impacts of the project, the public notice states that the applicant would conduct off-site mitigation. The U.S. Fish and Wildlife Service Mitigation Policy established policy guidance for the Service to make recommendations to protect and conserve fish and wildlife resources. Mitigation follows that definition used in National Environmental Policy Act regulations and involves a 5-step sequential assessment of potential mitigative alternatives as follows:
a. Avoid the impact altogether by not taking a certain action or parts of an action.
b. Minimize impacts by limiting the degree or magnitude of the action and its implementation. c. Rectify the impact by repairing, rehabilitating, or restoring the affected environment. d. Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action. e. Compensate for the impact by replacing or providing substitute resources or environments.
USFWS Comment 7 - No information was included in the public notice regarding long-term maintenance of the intake and outfall structures.
USFWS Comment 8 - The permit application indicates you have determined that the proposed action may affect federally listed species or critical habitat. The public notice states that you have determined the project may affect, but is not likely to adversely affect the piping plover *(Charadrius melodus),* whooping crane *(Grus americana),* West Indian manatee *(Trichechus manatus),* Atlantic hawksbill sea turtle *(Eretmochelys imbricata),* green sea turtle *(Chelonia mydas),* Kemp's ridley sea turtle *(Lepidochelys kempii),* leatherback sea turtle *(Dermochelys coriacea),* and loggerhead sea turtle *(Caretta caretta).* Determinations for sea turtles should distinguish between sea turtles in the water and nesting sea turtles. The Service recommends that the candidate species, red knot *(Calidris canutus ssp. rufa)* be included in your determination of effects as this species is being considered for listing under the Endangered Species Act. The Service requests a copy of the applicant's analysis, for those species, for which a determination of "may affect, not likely to adversely affect", been made. This analysis should include the project area and mitigation area(s).
USFWS Comment 9 - For the West Indian manatee, the Service recommends that project construction and operations employees will (a) be advised that manatees may approach the proposed project area (b) be provided materials, such as a poster, to

assist in identifying the mammal, (c) be instructed not to feed or water the animal, and (d) be provided the appropriate contact numbers for the Service in case a manatee is sighted.
USFWS Comment 10 - Develop and provides for review and comment, a mitigation plan to offset the unavoidable impacts of the project.

No response was received from NMFS.

The EPA responded by letter, dated 6 March 2014, stating that:
EPA Comment 1 - We recommend the applicant provide a more detailed description of the purpose of the proposed project.
EPA Comment 2 - We recommend the applicant provide documentation of any alternatives analysis they have conducted, with an emphasis on the predicted impacts to waters of the U.S.
EPA Comment 3 - NWP #16 does not authorize the disposal of contaminated sediments at CDFs where there might be release of contaminants into the environment. The nationwide permit does not relieve permit applicants from ensuring that contaminants are not released into the environment either at the effluent discharge point or from the disposal site proper. In fact, special conditions at 33 CFR 330 require that "any discharge of dredged or fill material shall consist of suitable material free from toxic pollutants."
EPA Comment 4 - The Corpus Christi Inner Harbor has a history of elevated concentrations of contaminants in sediments. EPA (1976) documented high concentrations of cadmium and zinc in Corpus Christi Inner Harbor sediments. We recommend that the sediment proposed to be dredged and disposed of on the project site be analyzed for grain size distribution. If the dredged material is 90% sand, then EPA would consider the material predominantly sand, and contaminant testing would not be necessary. However, if the dredged material is <90% sand, the material should be tested for contaminants, as per the Upland Testing Manual.
EPA Comment 5 - We recommend the applicant consider using the 30,000 cubic yards of dredged material that will be generated from the proposed dredging, beneficially for marsh, sea grass, or tidal flat creation, assuming the dredged material is suitable material, free from toxic contaminants.
EPA Comment 6 - The applicant must propose appropriate compensatory mitigation for their estimated 45.3 acres of wetlands presumed to be filled.

(2) Federally Recognized Native American Tribes and Affiliated Groups.

No response was received from any federally recognized Native American Tribes and/or affiliated groups.

(3) State and Local Agencies.

The TPWD responded by letter, dated 7 March 2014, stating:

TPWD Comment 1 - TPWD recommends that the applicant clarify where dredged material will be placed.

TPWD Comment 2 - The PN states that the project site contains 3.5 acres of non-wetland waters but the location(s) and character(s) of these waters do not appear to be identified in project plans. If the applicant is referring to the shallow water habitats at the proposed intake and outfall sites, water depths and acreages should be indicated for each site so that impacts to these aquatic resources can be fully evaluated. If construction of these structures results in unavoidable impacts to shallow water habitats, the applicant must provide compensation for those impacts.

TPWD Comment 3 - It is not clear what factors were used by the applicant to characterize these wetlands as "low quality". The applicant should provide additional information to justify this characterization.

TPWD Comment 4 - According to the applicant's agent, Zephyr Environmental Corporation (ZEC), the purpose of the intake and outfall structures is to construct and operate an onsite desalination plant. The Texas Commission on Environmental Quality (TCEQ) should ensure that the project is compliant with the applicable rules and regulations for this aspect of the project to protect water quality and fish and wildlife resources.

TPWD Comment 5 - It is not clear if the applicant has provided an alternatives analysis that meets the requirements 40 CFR 230.10 of the 404(b)(l) Guidelines. Because the desalination component is the only aspect of the project requiring some level of proximity to the water, the alternatives analysis should include alternative sites and methodologies that do not include a desalination component. If there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, no discharge should be permitted.

TPWD Comment 6 - The mitigation statement provided in the PN does not detail any specific mitigation project or plan to compensate for over 45 acres of impacts to aquatic resources.

TPWD Comment 7 - According to ZEC the applicant has no intentions to restore the proposed equipment laydown yard post-construction. Because the purpose for filling wetlands on this site is to support construction activities, the applicant should consider post-construction restoration and enhancement activities to help offset proposed impacts.

TPWD Comment 8 - TPWD is open to continuing coordination with the applicant and

their agents and encourages that the applicant develop a detailed permittee-responsible mitigation (PRM) plan under a watershed approach that contains all the elements as required in 33 CFR 332.4(c)(2) through (c)(13) of the Final Compensatory Mitigation Rule issued on April 10, 2008.
TPWD Comment 9 - TPWD recommends that the USACE not permit the project as proposed.

The THC responded by letter, dated 24 February 2014, stating that the project will have no effect on historic properties and the project may proceed.

The TCEQ will be responsible for issuing Coastal Zone Management Plan (CZMP) Consistency since the project is classified as a Tier II project. The CZMP determination will be made by the TCEQ when they made a determination pertaining to 401 water quality certification.

The TCEQ responded by letter, dated 3 March 2014, stating additional information is needed for review of the proposed project.
TCEQ Comment 1 - The TCEQ looks forward to reviewing a complete mitigation plan containing all components of the U.S. Army Corps of Engineers' 2008 Mitigation Rule.
TCEQ Comment 2 - Please have the applicant explain whether impacts to wetlands and other jurisdictional waters greater than 45.3 acres indicated in the public notice are planned.
TCEQ Comment 3 - Please confirm that the concentration of suspended solids in effluent from contained disposal areas will not exceed 300 milligrams per liter.

(4) Individual and Organized Groups. Mr. Johnny French responded by email, dated 24 February 2014, stating:
Mr. French Comment 1 - I recommend that the USACE suspend issuance of permits in the Inner Harbor pending preparation of a Supplemental EIS to consider the impacts on the estuarine environment of alternative locations for new DMPAs.

d. Applicant's Response to Comments. The comment letters received during the public notice comment period were forwarded to the applicant by letter dated 17 March 2014. The Corps also added the following comment:
USACE Comment 1 - Provide a Compensatory Mitigation Plan detailing your proposal to offset the loss of aquatic resource functions that would be caused by constructing proposed project.

The applicant responded to the comments by letter, dated 18 April 2014 stating:

Responses to USFWS Comments
M&G Response 1 - This information was presented as part of the project submittal to USACE.
M&G Response 2 - M&G is actively engaged with TCEQ for permitting of all aspects of the desalinization plant (temperature and salinity of effluent) as well as the associated intake/outfall structures.
M&G Response 3 - The laydown yard is an important and necessary part of the plastic resins facility project. M&G intends to continue to utilize the laydown yard for equipment and material storage after construction is complete. M&G intends to mitigate for all impacts associated with the project. Mitigation for impacts to wetlands associated with construction of the equipment laydown yard will be included within the proposed compensatory mitigation plan. It should be noted that modification of the laydown yard on the north tract has resulted in a decrease of total wetland impacts due to the project. The currently proposed laydown yard is 27.9 acres, which represents a 1.7 acre reduction in wetland impacts versus the 29.5 acre laydown yard originally proposed.
M&G Response 4 – Channel B is a man-made upland cut ditch constructed by PCCA for drainage of the local area. It is M&G's opinion that this feature is non-jurisdictional. M&G stated it believes that the finalized Preliminary Jurisdictional Determination from USACE will support this opinion.
M&G Response 5 – All listed components of the project are vital and integral to the overall plastic resins facility. Omission of any component would render an incomplete facility with insufficient capabilities. Impacts to waters of the US due to the project, while described as due to one component or another are necessary for the entire project and unavoidable. The facility has been designed to meet required operational, maintenance, and safety guidelines. Changes to the proposed design while potentially resulting in less impacts to regulated waters, would also result in increased operating costs, adverse safety conditions, and increased development at another location to compensate for lack of onsite capabilities at the proposed M&G site. Information regarding all proposed impacts is presented in the permit submittal to USACE.
M&G Response 6 – M&G has followed the described guideline to the practical and logical extent possible. Operation of the facility is water-dependent. Design of the facility is dependent upon operational, logistical, maintenance, and safety issues. Impacts to wetlands have been avoided and minimized to the extent practical based upon the necessary operational, logistical, maintenance and safety constraints.

All proposed impacts will be compensated for within the proposed mitigation plan. The level of mitigation proposed within the plan will be comparable or greater than recently accepted plans for similar impacts in the area. M&G will provide a compensatory mitigation plan developed utilizing the guidelines described in 40 CFR Part 230 to

mitigate for the impacts to the artificial wetlands unintentionally created by dredge material placement and earth works in an area specifically designed and created for industrial use.
M&G Response to Recommendation 1 – None
M&G Response 7 – Long-term maintenance of the intake/outfall structures is uncertain since their design is still under consideration. These are common structures within the ship channel. Long-term maintenance is expected to be similar to other existing intake/outfall structures. It should be noted that the intake structure design will satisfy all aspects of Rule 316(b).
M&G Response 8 – "This comment appears to be directed at USACE. It should be noted that M&G developed a biological assessment discussing impacts to listed species in Nueces and San Patricio Counties as part of the submittal for a GHG permit for EPA. Informal discussions with USFWS Ecological Services - Corpus Christi and U.S. National Park Service - Padre Island personnel aided in the determination of possible impacts to listed species. An additional discussion of impacts to listed species (including the red knot) due to project construction only, will be presented for review."
M&G Response 9 – M&G plans to construct, operate, and maintain the proposed plastic resins facility in a manner which avoids adverse impacts to all protected species listed for Nueces and San Patricio Counties.
M&G Response 10 – Documentation detailing compensatory mitigation for the proposed M&G project based upon rules and guidelines described in 40 CFR Part 230 is under development and will be forwarded to the USACE.

Responses to EPA Comments
M&G Response 1 – This information was presented as part of the project submittal to USACE.
M&G Response 2 – This information was presented as part of the project submittal to USACE.
M&G Response 3 – Thank you for EPA's comments regarding the proposed M&G project. Hydraulic dredging is not proposed for this project. Material excavated from the ship channel will either be utilized as fill on the M&G project site or placed in POCCA DMPA "C". There will be no release of the material or its associated runoff into any water body.
M&G Response 4 – It is M&G's opinion that if material will be excavated from the ship channel for the intake/outfall structures then it will be clean based upon the fact that the area has not been previously developed or utilized for any purpose. However, while some maintenance sediments excavated from the ship channel have exhibited elevated levels of chromium, copper, lead, mercury, and zinc, all have been allowed placement in a Port or USACE managed DMPA.
M&G Response 5 – At the present time it is not determined that dredging will be

required. However, if dredged, material will either be placed within the M&G project site as fill material or placed in the PCCA DMPA "C". If the material is placed on the M&G project site, its "beneficial use" as construction material for this or another project may be considered. There are no shovel-ready projects within the Nueces Bay watershed known to M&G that would require the use of dredged material specifically from the project; the lack of an active "beneficial use" project does not fit the time schedule for this project. However, should a separate project seek to use dredged material as a construction option, that project's sponsor can evaluate the feasibility and obtain any permits necessary.
M&G Response 6 – Documentation detailing compensatory mitigation for the proposed M&G project is under development and will be forwarded to the USACE as soon as possible. M&G will provide a compensatory mitigation plan developed utilizing the guidelines described in 40 CFR Part 230 to mitigate for the impacts to the artificial wetlands unintentionally created by dredge material placement and earth works in an area specifically designed and created for industrial use.

Responses to TPWD Comments
M&G Response 1- At the present time, the final placement of dredge material from the ship channel is under consideration. The material will either be placed within the M&G project site as fill material or will be placed in the PCCA DMPA "C".
M&G Response 2 - Thank you for TPWD's comments and concerns in regards to impacts to non-wetland habitats due to the project. It is M&G's understanding that the impacts incurred by the project to non-wetland waters are not regulated. This understanding is based on: 1) non-jurisdictional nature of the drainage ditch feature excavated from uplands (Channel B); and/or 2) no deposition of fill within or change in acreage of aquatic habitat as a consequence of the action (mechanical excavation within the ship channel).
M&G Response 3 - M&G and its consultant represented the impacted project area wetlands as "low quality" based on: 1) lack hydrologic connection to riverine and tidal waters (the wetlands are perched and exhibit a very limited watershed), 2) generally low diversity; 3) significant invasive noxious vegetation in the local area; and 4) recent drought conditions which have significantly reduced the only inflow of water (rainfall) the wetlands receive. The term "low quality" was meant as a comparison term in regards to other nearby naturally formed wetlands in the general area which have experienced much less manipulation and modification than wetlands inside of the former DMPA.

It should be noted that analysis of the impacted wetlands utilizing the Riverine Herbaceous HGM model and a liberal value assessment on the part of M&G has resulted in the onsite impacted wetlands receiving a value of medium quality. M&G will mitigate for all impacted wetlands utilizing the ratios (1:3- restoration, 1:5- enhancement, and 1:12- preservation) previously determined by USACE for impacts to

medium quality wetlands.
M&G Response 4 - M&G is actively engaged with TCEQ for permitting of all aspects of the desalinization plant (temperature and salinity of effluent) as well as the associated intake/outfall structures.
M&G Response 5 - M&G's permit submittal to USACE for the project included an alternatives analysis. The proposed plastic resins facility and associated desalinization plant are part of a single project and cannot be separated for logistical, operational, practical, and economic reasons. As such, the entire project is water dependent. While the proposed project site does result in impacts to wetlands, it is the most practical location of the available alternatives. M&G will provide a compensatory mitigation plan developed utilizing the guidelines described in 40 CFR Part 230 to mitigate for the impacts to the artificial wetlands unintentionally created by dredge material placement and earth works in an area specifically designed and created for industrial use.
M&G Response 6 - Documentation detailing compensatory mitigation for the proposed M&G project is under development and will be forwarded to the USACE. The anticipated mitigation plan will include a combination of enhancement, restoration, and preservation of tidal marsh habitats in the area of the Nueces Delta. M&G will provide a compensatory mitigation plan developed utilizing the guidelines described in 40 CFR Part 230 to mitigate for the impacts to the artificial wetlands unintentionally created by dredge material placement and earth works in an area specifically designed and created for industrial use.
M&G Response 7 - The laydown yard is an important and necessary part of the plastic resins facility project. M&G intends to continue to utilize the laydown yard for equipment and material storage after construction is complete. M&G intends to mitigate for all impacts to the artificial wetlands unintentionally created by dredge material placement and earth works in an area specifically designed and created for industrial use. It should be noted that modification of the laydown yard design has resulted in a decrease of total wetland impacts due to the project. Impacts to wetlands associated with construction of the equipment laydown yard will be mitigated for with the proposed compensatory mitigation plan.
M&G Response 8 - M&G appreciates TPWD's offer of continued coordination. M&G will continue to coordinate the USACE Permit for impacts to waters of the US and associated issues with USACE - Galveston as required under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act of 1972.
M&G Response 9 - M&G thanks TPWD for submitting its comments and concerns regarding the proposed project. M&G intends to satisfy all pertinent rules and regulations in regards to the construction, operation, and maintenance of the facility. M&G believes that the project should be permitted upon satisfactory compliance with the pertinent rules and regulations.

Responses to TCEQ Comments
M&G Response 1 - Documentation detailing compensatory mitigation for the proposed M&G project based upon rules and guidelines described in 40 CFR Part 230 is under development and will be forwarded to the USACE.
M&G Response 2 - The submittal presented to USACE for review includes all anticipated impacts to waters of the US due to the project. It should be noted that modification of the laydown yard on the north tract has resulted in a decrease of total wetland impacts due to the project.
M&G Response 3 - Details regarding the actual construction techniques have not been formulated to date for the construction of the water intake and discharge structures within the Viola Ship Channel, but most options under consideration would involve minimal mechanical dredging. In the event that water from hydraulic dredging operations will need to be discharged, M&G will be sure that all conditions of Nationwide Permit #16 will be adhered to, including that effluent from upland confined placement areas does not exceed a total suspended solids concentration of 300 milligrams per liter.

Responses to Johnny French's Comments
M&G Response – The applicant thanks Mr. French for his comments and concerns regarding the M&G project. The consideration of estuarine impacts and available life span of existing DMPA's within the Corpus Christi ship channel is a USACE matter outside of M&G's control. M&G will abide by any and all USACE rules and regulations in regards to the construction and operation of the facility and mitigation for impacts to regulated waters. It should be noted that the project site has not been utilized as a DMPA for a number of years prior to purchase for this project.

Responses to Corps Comments
M&G Response 1 - Documentation detailing compensatory mitigation for the proposed M&G project based upon rules and guidelines described in 40 CFR Part 230 is under development and will be forwarded to the USACE.

The applicant's responses and a mitigation plan (received 18 April 2014), the alternative analysis, project purpose and construction techniques, impact tables, and the finalized PJD for the project site were forwarded (emailed) to the resource agencies on 5 May 2014. We received the following comments:

USFWS Comments

Follow-up USFWS Comment 9 - With regard to their response on the manatee, and the information in their response chart, The FWS does not have a copy of their BA to know if they (i.e. the USACE) has made a determination of no effect or may affect not likely to

adversely affect the West Indian manatee.
USFWS Comment 11 - With regard to the preservation component, as FWS noted in its phone message to the Corps earlier, the FWS could not find the applicant's mitigation plan how Tract 2 would be protected in perpetuity, and what the applicant's response would be if it were damaged as a result of their project.
USFWS Comment 12 - Finally, on several of their responses to our comments, M&G said that the information FWS requested was included "in the project submittal to USACE". Perhaps FWS can find a time where it can review the materials the applicant submitted to the Corps on such things as the pipeline, the summary of impacts for each of the project components, and the long-term fate of the laydown yard site.

EPA Comments
Follow-up EPA Comment 3 - As long as there is no runoff, including from rainfall on the confined disposal facility, then testing of the material to determine whether water quality criteria will be met at the discharge from the confined disposal facility is not required. However, EPA notes that is a big assumption on M&G's part. EPA hopes the applicant's assumptions in this regard end up being correct.
Follow-up EPA Comment 4 -EPA does not agree with M&G that because the specific site proposed for development by them has not previously been developed, that material proposed to be dredged from the ship channel will be "clean". The ship channel is highly industrialized, and some sediment samples from other locations in the ship channel have shown undesirable contamination. EPA continues to recommend sediment testing, unless M&G can commit to no discharge of sediment or water to waters of the U.S., as a result of the placement of any fill, including in upland confined disposal facilities, and taking into account future rainfall on confined disposal facilities, as per the Upland Testing Manual.

The fact that the USACE has in the past allowed placement of sediment dredged from the Corpus Christi Ship Channel in Port of Corpus Christi or USACE managed dredged material placement areas in the past does not relieve the applicant of the requirements of Section 404 of the Clean Water Act. Clearly, there is reason to believe that any sediments in the Corpus Christi Ship Channel may not be free of contaminants. A conservative approach to managing dredged material from this water body would clearly include contaminant testing in order to know the quality of the material and make a determination regarding its suitability for proposed disposal. Existing information is acceptable, but it should be no more than five years old, and should have been collected and analyzed for an appropriate suite of contaminants using appropriate methods with appropriate detection limits, as per the Upland Testing Manual or the Inland Testing Manual. Samples should be from near the proposed dredging sites.
EPA Comment 7 -EPA questions whether the proposed mitigation is the best option

available. We have a number of questions and concerns for the proposed mitigation, and there are stronger restoration concepts available. For example, the authors of the following report recommended: Consider improving hydrologic connectivity through engineering solutions, including creation of channels, installation of culverts and diversions of water to historic drainage areas and tidal creeks in the Nueces marsh.

Hodges, B.R., K.H. Dunton, P.A. Montagna, G.H. Ward, et al. 2012. Nueces Delta Restoration Study. Report to the Coastal Bend Bays and Estuaries Program, Project 1001.

EPA Comment 8 -EPA does not agree with the proposed wetland preservation as compensatory mitigation. As a matter of policy, EPA generally does not favor wetland preservation for compensatory mitigation since it results in a net loss of wetland area and function. In addition, some wetland areas proposed for preservation may not be under much threat of impact.

EPA Comment 9 -EPA questions whether these tracts will be properly preserved in perpetuity. While the applicant proposes to deed the property to the Coastal Bend Bays & Estuaries Program, the document does not mention any legal instruments that would guarantee long-term preservation of the tract, such as a conservation easement. Required compensatory mitigation for CWA Section 404 permits are typically protected by such legal instruments. Without them, there is the possibility of negative wetland impacts in the future, even perhaps when a well-intentioned organization such as the Coastal Bend Bays & Estuaries Program is the owner.

EPA Comment 10 -Have the areas proposed to be restored in Tract 1 (i.e. 149.8 acres of saline coastal prairie wetlands) been confirmed to be jurisdictional wetlands?

EPA Comment 11 - While the proposed elimination of grazing pressure, and mechanical/chemical removal of invasive woody vegetation would appear to have value for partially restoring saline coastal prairie wetlands in Tract 1 (assuming this is saline coastal prairie habitat), the elimination of overbank flooding from the Nueces River (including Rincon Bayou tributary+) would appear to severely constrain the actual restoration potential at this site (assuming that the site is actually low enough to have received overbank flooding historically).

EPA Comment 12 - The document does not provide any justification for the restoration need/value of seeding the site with *Spartina spartinae* seed. EPA recommends the applicant explain why this proposed restoration activity is needed and why; and how it is expected to assist in restoration of the site.

EPA Comment 13 - Performance standards- EPA recommends the applicant clarify whether the 20% minimum cover requirement in year 1 applies only to Tract 1, or to both tracts. EPA does not believe this performance standard is appropriate for Tract 2 (and EPA assumes the intent was not to suggest that it is, but this needs clarifying). Since the document makes a special point that soil organic matter is expected to

increase as a result of restoration treatments, it would seem that an increase in soil organic matter over time to be an important performance standard.
EPA Comment 14 – Monitoring: EPA recommends that soil organic matter be monitored.
EPA Comment 15 - Consistency between performance standards, monitoring, and reporting- The document does not appear to be entirely consistent regarding stated requirements for performance standards, monitoring, and reporting. The document should clearly reflect that all performance standards will be monitored for and methods should be cited or described. Reporting should include all monitoring described under "monitoring". All 3 sections should be consistent with each other.

TPWD Comments
Follow-up TPWD Comment 2 - Based on the information provided in the public notice, it is not clear if the intake and outfall structures will act as fill. The project plans suggest that the 42-inch outfall structure will be located on the surface of the substrate. No details are provided for the intake structure. Because these structures are the sole basis of the project's water-dependency for filling over 40 acres of jurisdictional wetlands, the applicant should provide additional details for this aspect of the project.
Follow-up TPWD Comment 5-The alternatives analysis "Attachment F" does not detail the locations or characteristics of the alternative sites considered, especially the four sites that were not considered unacceptable based on impacts to natural and cultural resources. The more detailed information provided in the 401 water quality checklist indicates that desalination is not a requirement of the project as most of the alternative sites were located inland and would have access to other water sources. Because the alternatives analysis in the 401 water quality document does not provide a consistent evaluation of the alternative sites, it is not clear if an acceptable alternative with fewer environmental impacts exists. To better justify the preferred alternative, the applicant should explain how the preferred site in conjunction with the proposed desalination plant (which does not avoid and minimize impacts but actually requires more impacts to wetlands at the project site by increasing the footprint of the facility) will have fewer impacts on aquatic resources than the alternative sites and water sources considered.
TPWD Comment 10 -Preservation is not a preferred mitigation strategy. However, provided that the U.S. Army Corps of Engineers determines that the proposed preservation areas meet the five criteria for preservation, TPWD finds the proposed compensatory mitigation concept to be an appropriate means of compensation.
TPWD Comment 11 -The functional lift to occur in the respective enhancement and re-establishment areas is not clear because the proposed mitigation plan does not differentiate between the enhancement areas and re-establishment areas with respect to historic and current site conditions, target conditions, and success criteria.
TPWD Comment 12 -Mitigation performance criteria do not adequately describe target

plant communities to species level and do not identify reference sites. Reference sites and species lists of target plant communities should be included for both re-establishment and enhancement activities.
TPWD Comment 13 -The only plant to be planted in the mitigation area is *Spartina spartinae* via seed dispersal. However, salty coastal prairies typically have greater diversity than monotypic stands of *Spartina spartinae*. If the target plant community is to include other species, those species should also be planted if they do not naturally re-establish from the existing seed bank within the first two years.
TPWD Comment 14 -The long-term success criteria for Tract 1 states that vegetative monitoring data must indicate cover averages at least 70% over all plots and is dominated by hydrophytic plant species. The plan defines hydrophytic vegetation dominance as a vegetative community where more than 50% of all dominant species are facultative ("FAC") or wetter. Because *Spartina spartinae* is classified as an obligate wetland species in the Atlantic and Gulf Coastal Plains but has been known to occur in areas in South Texas without hydrology or hydric soil indicators and because *Spartina spartinae* is the only plant to be seeded in the mitigation area, the long-term success criteria should also include hydrology and hydric soil indicators.
TPWD Comment 15 - Invasive vegetation monitoring and removal should not be limited to woody species but should include herbaceous and gramminoid invasive species as well.
TPWD Comment 16 - Table 3 should be revised to also include state-listed species in Nueces and San Patricio Counties.
TPWD Comment 17 - Any work that requires the introduction of aquatic plants, including propagules such as seeds, requires a TPWD-issued permit to introduce fish, shellfish, and aquatic plants. Please contact Paul Silva at TPWD in Corpus Christi at 361-825-3204 for more information.

TCEQ Commented
TCEQ Comment 4 - The mitigation areas should be protected via conservation easement held by a third party. It is unclear if this is currently intended by ownership being turned over to CBBEP, but these areas should be protected by conservation easement.
TCEQ Comment 5 - Please provide TCEQ with a Corps approved jurisdictional determination for Tract 1 and 2 mitigation areas once it becomes available.
TCEQ Comment 6 - Success Criteria: The criteria do not specify what species of plants shall be included and excluded from the percent coverage criteria. Only desirable native plant species should be included in the plants considered in the percent cover criteria, and these species should be listed in the plan.
TCEQ Comment 7 - Criteria that the mitigation areas meet the definition of jurisdictional wetland should be included in the mitigation plan.

TCEQ Comment 8 - If re-planting or re-seeding is necessary to achieve the desired percent coverage, additional monitoring time should be added to ensure success of planted and seeded wetlands. For example- 70% coverage "x"-years after the last planting/seeding.
TCEQ Comment 9 - Control of invasive species should be 1% or less during the monitoring period. 10% is too much.
TCEQ Comment 10 - Open water areas should not be included in mitigation acreages, unless used to mitigate open water impacts.

The follow up comments and new comments were forwarded to the applicant as they were received. The applicant responded via email on 3 June 2014 stating:

Responses to USFWS Comments
Follow-up M&G Response 9 – Upon further review and discussion, M&G intends to provide manatee awareness training to those individuals and crews that will be involved with activities in and adjacent to the ship channel (i.e. intake/outfall construction). Awareness training will familiarize the crews with the following aspects:

1. How to identify a manatee;

2. Actions to avoid if a manatee is identified in or near the work area; and

3. Actions to undertake if a manatee is identified in or near the work area.

Manatee awareness training will involve verbal and pictorial descriptions of the species (including manatee images/signs which will remain onsite until the pertinent construction efforts are completed. Crews will also be trained in regards to avoidance of interaction and cessation of work efforts if a manatee is identified in or near the work area. During the manatee awareness training, crews will be instructed to avoid any interaction with manatees, should one be encountered. Additionally, crews will be instructed to cease work efforts if a manatee is identified within 500 feet of a work area. Additionally, the job foreman will contact USFWS – Corpus Christi Ecological Services Field Office (361-994-9005) to notify the Service that a manatee has been identified in the area.
M&G Response 11 - Please see PRM final_M&G Comment Response Document_2014-05-30.pdf and PRM Final_M&G Plastics Resins Facility_SWG-2013-2014-05-30-condensed.pdf
M&G Response 14 – The applicant did not respond, but we (the Corps) responded: The Corps is willing to either send the requested documents electronically or they can be reviewed at the Corps office upon appointment.

Responses to EPA Comments
Follow-up M&G Response 3– If it is determined that onsite storage of material excavated from the ship channel is the preferred alternative, then construction methodologies and BMP's will be put into place that will prevent run-off from these soils does exiting the site. Additionally, M&G is committed to accomplishing the excavation of the intake and outfall structures via mechanical dredging.
Follow-up M&G Response – Sediment testing may be required depending upon substrate type and placement area, also if a DMPA is planned to be used, coordination with Corps Operations and Real Estate for such activities will occur.
A sampling and analysis plan (SAP) is being prepared to characterize soil that will be removed during construction activities. The SAP will be prepared following EPA/USACE guidelines discussed in Section 8 of "Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. – Testing Manual" (EPA-823-B-98-004, February 1998). The materials will be mechanically dredged and either placed on the M&G project site or within the Port of Corpus Christi Authority Cell C. Bulk Sediment Chemistry Testing will be performed on the samples.
It is the applicant's understanding that this level of testing is satisfactory for placement within the PCCA managed DMPA "C".
M&G Response 7 – The hydrologic connection discussed in Hodges et al. (2012) is located between the Nueces River and Rincon Bayou and flows through lower elevation, marsh wetlands located in the relic Nueces River (Rincon Bayou). There are no assurances of frequency or duration of elevated fresh water levels from the Nueces River or Rincon Bayou (Hodges et al. 2012). Based on Lidar mapping, the elevation of Tract 1 is approximately 2.0 feet or higher than the adjacent water bodies (Nueces River and Rincon Bayou). For the PRM area to receive nominal flooding, the water levels of the Nueces River and Rincon Bayou must be higher than the lowest elevations of natural river levees adjacent Tract 1. Due to the rate of upstream freshwater capture (two reservoirs and a saltwater barrier), high evaporation rates, and municipal withdrawals, historical seasonal freshwater flooding has been reduced and is not as available as freshwater inputs once were. Therefore, due to the higher elevations of Tract 1 than the adjacent streams and the reduction of freshwater inputs, water diversions associated with the adjacent waterways are not feasible.

Hydrology of the re-establishment and enhancement areas is based on geomorphic position and a boundary discerned through comparable elevations to saline prairie wetland habitat adjacent to and within Tract 1 (enhancement mitigation area). These herbaceous wetlands are dominated by Gulf cordgrass (*Spartina spartinae*) (from here forward is referred to as *spartinae*). The existing saline prairie wetlands are found on broad depressional areas with hydric, heavy clay soils, and are dominated by *spartinae*. Freshwater input into these wetlands is primarily from rainwater that does not percolate

through the heavy clay soil. The creation of channels within Tract 1 will likely result in an improved drainage system capable of removing fresh surface water originating from rainfall or possible stream flooding. Furthermore, the channels may allow for the inflow of tidal saltwater during abnormally high tides (e.g., tropical depressions), creating hyper-saline conditions, and the potential to form salt pans in place of existing vegetative communities.
M&G Response 8 – While restoration is the preferred method for compensatory mitigation, preservation is an acceptable form compensatory mitigation in certain circumstances. The Tract 2 preservation mitigation area is acceptable because of the inherent value of coastal marsh/estuarine habitat in Corpus Christi Bay, which is a difficult to replace resource [(33 § 332.3 (e)(3)]. Tract 2 is in a natural state and should remain that way. Perpetually protecting (preserving) Tract 2 removes any and all threat of future development or filling.

As defined in 33 § 332.2, Compensatory mitigation means the restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

As defined in 33 § 332.2, Preservation means the removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

M&G offers the Tract 2 preservation mitigation acreage to be protected in perpetuity and deeded to the Coastal Bends and Bays Program as part of the Nueces Delta Preserve (Preserve). As indicated in the PRM plan, the preservation mitigation ratio is 12 mitigation acres to 1 acre of unavoidable wetland impacts. Tract 2 is 73.8 acres and can mitigate for 6.2 acres of unavoidable impacts.
M&G Response 9 – The Charter document for the CBBEP provides the proper perpetual mechanism for lands under its protection which is currently under review by the CESWG. Furthermore, M&G is placing a Declaration of Restrictive Covenant on Tract 2 until it is deeded to the CBBEP which is currently under review by the CESWG.
M&G Response 10 – The wetland delineation report is under review by Corpus Christi Regulatory Field Office staff.
Tract 1 is divided into two mitigation types: enhancement (41.0 acres) and re-establishment (108.8 acres). The enhancement mitigation areas have been delineated

as wetlands by DLS and the CESWG during a site visit on May 20, 2014. Delta is currently waiting to receive the approved JD from the Corps. For wetland re-establishment to occur, re-establishment areas must be identified as missing one of the three criteria during the wetland delineation (USACE1987 and 2010). The re-establishment areas of Tract 1 do not meet a hydrophytic vegetation indicator; therefore, are not and should not be wetlands at this point.
Furthermore, these areas were historically plowed, have been severely overgrazed, and have been invaded by woody species. DLS is confident in the efforts to re-establish the saline prairie habitat due to the spartinae dominated areas (enhancement area) that were protected by fencing and subject to prescribed fire since the mid-1980's by the CBBEP.
M&G Response 11 – The PRM Area (Tracts 1 and 2) is located in the Mid-Coast Barrier Islands and Coastal Marshes Level IV Ecoregion. Tract 1 is saline coastal prairie habitat. The National Wetlands Research Center identifies areas such as Tract 1 to be saline prairie: the transition in which Texas coastal prairie grades into high salt marsh (USGS, NWRC: The Coastal Prairie Region, http://www.nwrc.usgs.gov/prairie/tcpr.htm).

Due to the hydrologic changes caused by the construction of two reservoirs, fresh water that historically flowed over the low lands surrounding Nueces Bay has been greatly reduced. In addition, the freshwater flows of a deltaic system may flow through, over or back into low areas to nourish the deltaic wetlands and do not have to directly flow over the natural levees of a stream or river. Due to the higher elevations of the natural terrace of the Nueces River along Tract 1, freshwater did not likely flow over these banks but resulted from the flooding of the entire deltaic plain following high rainfall events in the Nueces River Watershed. The existing and proposed wetland areas (depressional backwater bays) would have flooded during these events, creating the wet prairie habitat. With the loss of most freshwater flooding inputs, fresh water availability now results primarily from occasional heavy rainfall to cause flooding of the lower Nueces Watershed and normal precipitation in the depressional areas.

Additionally, ongoing efforts by the CBBEP have shown that the area is still capable of developing and maintaining wetland characteristics when managed correctly. Erratic rainfall and flooding has been a common hydrologic condition in the area for an extended period. The applicant is confident that the restored and existing wetland biota will adequately colonize and dominate the proposed re-establishment areas as they have on adjoining CBBEP lands.
M&G Response 12 – Planting and/or reseeding is a common practice for re-establishing, rehabilitating or enhancing a wetland mitigation area or mitigation bank. There are remnant colonies of spartinae found on the re-establishment areas of Tract 1 where prickly pear cactus (*Opuntia spp.*) has protected individual specimens from cattle

grazing. The distribution (spreading) of spartinae seeds will increase the rate of re-colonization and ground coverage by providing a persistent source for potential vegetative regeneration (a quasi-seed bank).

The primary benefits of the quasi-seed bank will be realized when environmental conditions (soil moisture) are suitable for germination. The likelihood of favorable environmental conditions conducive to the survival of live plantings is relatively low. The likelihood of favorable environmental conditions conducive to the survival of live plantings on Tract 1 is relatively low which will increase the probability of spartinae plug failure. Naturally germinated seedlings will be firmly rooted and have better chances of survival.
M&G Response 13 – The performance standards only apply to Tract 1, this is now specified in the introductory paragraph of Section 11.0 Performance Standards.
M&G Response 14 – An increase and/or maintenance of soil organic matter (OM) is a known and accepted wetland process. The re-establishment of a natural, perennial ecosystem dominated by spartinae will increase soil organic matter. In addition, the cessation of plowing will no longer turn the soil over and cause excessive oxidation of OM in aerobic conditions. Based on the review of literature provided below, the development of an OM component is an implicated result in re-established wetlands and the monitoring of soil OM is not necessary.

Equally important to the values of wetlands are the processes that occur in wetland soils. Aerobic and anaerobic conditions take place in soils and OM is produced in both settings. OM decomposes slowly under anaerobic conditions due to inundation which causes a lack of oxygen and reducing conditions (Gosselink and Mitsch 2007). Over time, as anaerobic conditions prevail, the percent of OM increases in the soil because anaerobic processes are less efficient than aerobic processes at decomposing organic matter. Since organic matter breaks down slowly in these settings, there is an overall increase of OM which is seen in the O- horizons of wetlands soils. With these concepts in mind, coastal prairie wetlands (CPW) once dominated the landscape from south-central Louisiana to south Texas (Forbes et al. 2012). Forbes et al. (2012) revealed a high OM with visible humics in filtered water taken from the CPW. OM was previously thought to slowly increase; however, certain wetlands have exhibited an increase in OM over short periods of time (Craft et al 1988), while other wetlands have reported a slow process of OM buildup (Langis et al 1991 in Shaffer and Ernst 1999). Within a wetland, as hydrophytic vegetation becomes dominant and plant biomass increases, OM increases in the restored wetland soils (Ahn and Jones 2013). Craft et al. (1988) explained that restored marshes may become identical to natural marshes in 15-30 years. Webb and Newling (1985) predicted a created marsh in Galveston Bay, Texas will be equal in terms of OM content to nearby marshes in 2-5 years (Edwards and

Proffitt 2003). Although the restored wetlands did not yet have the same exact OM content and soil development characteristics as natural wetlands, this data suggests that over time organic matter will increase. Continual increases in organic matter, even with slight decreases, will eventually approach or replicate a naturally occurring wetland area.

The development of organic matter in wetlands has been scientifically documented; relative information regarding those findings was provided in the PRM Plan. The Performance Standards are listed in Section 11.0 of the PRM Plan and are subject to guidance of the 1987 Wetlands Manual (USACE 1987) and Atlantic and Gulf Coastal Plain Regional Supplement (USACE 2010). The success criteria for these Performance Standards utilize the same methods outlined in the aforementioned documents for delineating jurisdictional waters including wetlands. Additionally, monitoring for soil organic matter is outside of the performance standards normally required for mitigation plans.
M&G Response 15 – The performance standards, monitoring, and reporting were reviewed and refined as necessary. As there is not an interim hydrogeomorphic model for monitoring functional lift of the mitigation areas, the performance standards, monitoring and reporting will utilize the methods of the 1987 Wetlands Manual (USACE 1978) and Atlantic and Gulf Coastal Plain Regional Supplement (USACE 2010) for data collection, description, and success criteria.

Responses to TPWD Comments
Follow-up M&G Response 2- Coordination with City of Corpus Christi representatives indicated that the proposed project water needs would require use of approximately 20% of Corpus Christi's remaining water reserves. Additionally, the use of raw water from the Nueces River via the City of Corpus Christi, Flint Hills Resources, and/or Oxychem is precarious and would remove potential freshwater flow that could potentially be directed through the Nueces Delta by the City. During the review process, it became apparent that the large volumes of water required for this project in conjunction with the existing complex water ownership situation as well as the ongoing and potential for continued drought conditions could result in project failure if a reliable and easily accessible water source could not be located. The proposed project site is the only practical alternative that allows for the utilization of desalinated water. The use of desalinization provides a consistent supply un-encumbered by upstream or senior water rights in addition to avoiding additional flow constraints on the already taxed Nueces River Delta. Due to monetary and logistical constraints, the plastic resins facility, desalinization unit, and other associated infrastructure must be located proximate to each other for the project to succeed.

It should be noted that locating the plastic resins facility along the Viola Ship Channel and utilizing desalinization as the water source avoids the need for removing large volumes of water from the Nueces River, thereby reducing impacts to the Nueces River and its associated habitats. Additionally, waste water from the facility will be released into the Viola Ship Channel, thus avoiding the potential need for discharge site in the Nueces River or Bay.

Follow-up M&G Response 5- A copy of the additional information for alternative analysis dated 2 June 2014 was sent to TPWD.

M&G Response 10 – None. Please see M&G Response to EPA comment 8 above.

M&G Response 11 - The re-establishment, enhancement, and preservation areas are addressed in the introductory paragraphs of Section 9.0 (Mitigation Work Plan).

M&G Response 12 - See EPA Comment **11** and Response concerning reference areas. Due to the nature of saline prairie restoration, the primary species for re-establishment and enhancement is *spartinae*. As previously discussed, *spartinae* is an obligate wetland species and is fire successional. The re-establishment of a fire successional community is based on grass cover capable of carrying a fire. As the re-establishment and enhancement areas experience canopy closure and fire is applied, other fire tolerant species associated with saline prairie will be propagated. These target species currently exist on site and will re-colonize the mitigation areas (Section 7.4.2, existing plant community). The observed species are vining mesquite (*Paspalum obtusum*), sea-ox-eye daisy (*Borrichia frutescens*), Seepweed (*Suaeda sp.*), maritime saltwort (*Batis maritima*), glasswort (*Salicornia sp.*), and Carolina wolfberry (*Lycium carolinianum*). The resulting plant community will be similar to the adjoining saline prairie of the Nueces Delta Preserve.

M&G Response 13 – The purpose of re-establishing or enhancing a saline prairie community dominated by *spartinae* is to establish a fire successional community. The implementation of prescribed fire will select for native, saline prairie herbaceous species and control species that are not fire tolerant (woody invasive and weedy annual/perennial/invasive species). In example, observed colonies of *Borrichia frutescens* and other saline prairie species are dispersed throughout Tract 1 and will provide seed sources (annual fruiting and existing seed bank) (e.g., species listed Section 7.4.2 of the PRM plan and discussed in TPWD comment response item 2). DLS selected *spartinae* because it is the dominant species on the Nueces Delta Preserve saline prairie. For harvesting purposes, the seed head matures in the late summer/fall and lends itself to mass collecting. While all wetlands are important, the re-establishment and enhancement of the saline prairie mitigation areas that will be dominated by *spartinae*, will mature quickly, and provide excellent mitigation for the impacted wetlands.

M&G Response 14 - Soils performance standards were added for initial and interim success standards. Once hydrology and hydric soils are reported for Year 3, no further

sampling and reporting for hydrology and hydric soils will be necessary. Re-establishing the hydrophytic plant community will provide the additional secondary indicator needed for wetland hydrology (as indicated by the wetland delineation report). In addition, the hydrophytic plant community will increase organic matter to further hydric soil development and maintenance. As indicated in Section 14.0 (Adaptive Management Plan), in the event a success criterion is not met, DLS will provide notice with an explanation and practices to resolve the deficiency.
M&G Response 15 - In paragraph one of Section 13.0 (Long-term Management Plan), the following response is provided. Prescribed fire is the intended tool to control invasive/exotic species. In the event, invasive/exotic species become problematic, all prudent efforts (i.e., physical, chemical, or mechanical) to eliminate existing invasive/exotic vegetation present and other species listed by the Texas Invasives Database (TexasInvasives.org).
M&G Response 16 - The purpose of Table 3 was to provide a list of federally listed species that may be found on the mitigation Area. Table 3 was removed from the PRM plan and replaced with Attachment E, the TPWD Annotated County Lists of Rare Species for Nueces and San Patricio Counties. The rare species lists from both counties were combined as one PDF attachment for the PRM plan. This was done to ensure that all potential species would be addressed.
M&G Response 17 – *Spartinae* is not an introduced species and is a naturally occurring species existing on the PRM area and the adjacent lands of the CBBEP. The collection and distribution is a proposed mitigation activity to re-establish a natural seed bank and vegetation cover. A copy of the first draft PRM plan has was sent to TPWD for his review on 5/27/2014. We are awaiting TPWD's comments.

Responses to TCEQ Comments
M&G Response 4 – The Charter document for the CBBEP provides the proper perpetual mechanism for lands under its protection which is currently under review by the CESWG. Furthermore, M&G is placing a Declaration of Restrictive Covenant on Tract 2 until it is deeded to the CBBEP which is currently under review by the CESWG.
M&G Response 5 – This information was provided to TCEQ via email on 27 June 2014.
M&G Response 6 – Statements are included in Sections 11.1, 11.2, and 11.3 (initial, interim and long- term success criteria) to exclude invasive/exotic species from percent coverage values. "Plant species included in the total cover will not include invasive/exotic vegetation species listed by the Texas Invasives Database (TexasInvasives.org)."
M&G Response 7 – Success Criteria have been redrafted and a statement placed at the end of the introductory paragraph of Section 11.0 (Performance Standards), "Success criteria of the Tract 1 re-establishment and enhancement mitigation areas will meet the wetland standards per the per 1987 Wetlands Manual (USACE 1987) and Atlantic and

Gulf Coastal Plain Regional Supplement (USACE 2010)."
M&G Response 8 – The long-term success criteria for plant coverage requires at least 70% cover averaged over all plots and dominated by hydrophytic plant species. If a mitigation area does not meet specified success criteria within the initial, interim, or long-term periods, per Section 14.0 (Adaptive Management Plan), DLS must report the deficiency and provide an adaptive management plan outlining specific practices to remediate any deficiencies.
M&G Response 9 – The 10% was not to imply only partial removal of huisache and honey mesquite. As planned, the applicant will institute the complete removal of woody vegetation within the wetland mitigation areas. The cover percentage for woody vegetation was reduced to less than 3%. The purpose of potentially leaving select mature woody stems is to provide a savanna type habitat with raptor perches for the Northern Aplomado Falcon.
M&G Response 10 – The open water area (Rincon Bayou) is not included as a mitigation credit habitat. The open water area of Rincon Bayou is within the property boundary is included to ensure full transfer of contiguous property ownership to the CBBEP.

The applicant's responses, the approved jurisdictional determination of the mitigation tracts, additional information on the alternative analysis, intake and outfall details, example of the deed restrictions, and an updated mitigation plan (dated 30 May 2014) were forwarded (emailed) to the resource agencies on 7 July 2014. We (the Corps) received the following comments:

USFWS Comments
Follow up USFWS Comment 3 – What is the fate of the laydown yard. Will that be a permanent impact? Will it be restored? If restored, can it be added to the Tract 2 parcel and ultimately, added to the CBBEP Preserve?
Follow-up USFWS Comment 11 - Will the applicant actually own Tract 2 so they could impose protection/restrictions to preserve it and is there a description in the plan of its current condition/vegetation community?

EPA Comments
Follow up EPA Comment 3 - The responses are somewhat confusing regarding the actual intent of the applicant regarding dredging and dredged material disposal. If the applicant dredges using mechanical dredging equipment, such as a clamshell dredge, EPA will be less concerned about potential contaminants in effluent, than if hydraulic dredging is done, as long as the dredged material is disposed of in an upland confined disposal facility. Furthermore, if the applicant reiterates in writing, assurances that the applicant mentioned on the phone, that if dredged material dredged using mechanical

dredging, is disposed of on the proposed facility with no discharge of effluent to any receiving water, then EPA will not have concerns for that option either, provided that steps are taken to limit the potential for rainfall runoff to come into contact with the sediment. With that in mind, the applicant had mentioned that the applicant intends to cover any dredged material placed on the construction site with a layer of "other" soil, and dredged material will not be directly exposed to rainfall/runoff. Provided the applicant commits to such approaches in writing, EPA would be willing to withdraw our recommendation that the dredged material be tested for contaminants, since the risk to water quality would appear to be low.

Follow up EPA Comment 8 - EPA was prepared to request additional information supporting the assumption that the proposed mitigation tracts are under threat of future development, as support for mitigation credit for preservation. However, after talking with the applicant it is EPA's understanding that the applicant is not receiving any mitigation credit for preservation of Tract 1- preservation of Tract 1 is only to guarantee the functional lift from the proposed restoration activity will continue indefinitely into the future, and preservation of Tract 2 is actually above and beyond the required mitigation. However, the applicant also mentioned that Tract 2 is actually under some development pressure, as the applicant has been approached by other industries regarding potential sale of that tract for development. EPA recommends the COE confirm that the applicant will not receive mitigation credit for preservation of Tract 1. EPA also requests the COE confirm that restoration of Tract 1 will provide sufficient mitigation to compensate for the applicant's wetlands impacts, and that mitigation from Tract 2 is not required to compensate for project losses. Finally, EPA recommends the applicant confirm in writing that there is development pressure on Tract 2, even though that may not technically be required. Such information will still serve to reinforce the value of the proposed preservation of Tract 2.

Follow up EPA Comment 11- EPA's intent in its previous comments recommending that the applicant consider some of the recommendations made by Hodges et al. (2012), was apparently not clear. EPA's intent was not to suggest that the applicant be responsible for a more effective connection between the Nueces River and its delta, though that is undoubtedly the greatest need.

Follow up EPA Comment 14 - The applicant responded to EPA's previous recommendation that soil organic matter be monitored at the mitigation tract, by providing fairly detailed support for the idea that soil organic matter was likely to increase. EPA thinks the applicant misunderstood our recommendation. EPA does not doubt the importance of increasing soil organic matter in this wetland mitigation project. Nor does EPA doubt that if the proposed mitigation is successful, that soil organic matter will increase. Rather, since the applicant argued the importance of soil organic matter as a key indicator that the proposed mitigation was going to improve, EPA thought it made sense to monitor it. EPA continues to recommend that soil organic matter be monitored at Tract 2. Since it would probably respond somewhat slowly,

maybe it only needs to be monitored at the beginning and near the end of the proposed monitoring period (5 years?). While EPA still thinks its recommendation makes sense, this is not of major importance.
EPA Comment 16 - The responses provided by the applicant have only now made obvious the importance of water to the proposed project, which might create secondary project impacts. Given this, EPA now requests the applicant provide information regarding the expected rate of water withdrawal from the Corpus Christi Inner Harbor, and the expected rate of return water discharge (and location). More importantly, EPA requests the applicant provide us with information regarding the anticipated effects of water withdrawal from the Corpus Christi Inner Harbor, on salinities in the Corpus Christi Bay system. EPA has no idea how much water is going to be withdrawn so it has no way of knowing whether this might be a significant impact on the bay system, or not.

TPWD Comments
Follow up TPWD Comment 5- The applicant has adequately addressed concerns for the alternatives analysis as well as the intake/outfall structures.
Follow Up TPWD Comment 11A – The agent's response to TPWD Comment 11 does not fully address the concern. Section 9.0 of the PRM describes a single point (sample point 11) within a proposed enhancement area where some enhancement activities have already been initiated. This sample point may not be representative of all areas to be enhanced or re-established. Furthermore, it is not clear if sample point 11 is intended to be a reference site for evaluating performance standards.
Follow Up TPWD Comment 11B - If sampling point 11 is intended to be a reference site, TPWD has concerns for the appropriateness of sampling point 11 as a reference site, especially for the re-establishment portion of the project due to differences in hydrology. For example, the LIDAR exhibit in Figure 8 shows an elevated berm just south of sampling point 11 that appears to be an impediment to overbank flow from the Rincon Bayou. Additionally, the higher banks along the Nueces River would also affect the frequency of overbank flow into the re-establishment area. Consequently, sampling point 11 has the potential to receive more hydrological inputs from overbank flow than the proposed re-establishment area and likely has more saline soils than the re-establishment site due to historic hypersaline conditions in the Nueces delta
Follow up TPWD Comment 11C - If sampling point 11 will not be used as a reference site, TPWD recommends that appropriate reference sites be established for both the re-establishment and enhancement sites. Any reference sites to be used should be clearly identified in the PRM.
Follow up TPWD Comment 11D - has there been any consideration given to restoring elevations within the vicinity of the berm to restore hydrology to the re-establishment site?

Follow up TPWD Comment 11E - According to Section 9.0, enhancement activities have already occurred in the area proposed to be enhanced (i.e., cessation of grazing, control of woody invasive species and use of prescribed fire) within the vicinity of sampling point 11. Have these actions resulted in any anticipated consequences (e.g. re-vegetation of cattle trails)? How will performance standards for this area differ from other proposed enhancement areas?

Follow up TPWD Comment 12 - The agent's response to TPWD Comment 12 does not address the concern. It is still not clear if the applicant has identified any reference site or intends to use reference sites to evaluate performance standards for re-establishment and/or enhancement site activities. See comment regarding sampling point 11 above.

Follow up TPWD Comment 13 - The agent's response to TPWD Comment 3 does not address the concern. A performance standard should be developed to ensure that the enhancement and re-establishment areas reflect the diversity of appropriate reference sites which should be clearly identified in the PRM. In the revised PRM, the dominance of hydrophytic vegetation is only required at Year 5. As such, if the performance standard is not achieved by Year 5, it does not appear that adaptive management will be able to remediate any deficiencies in a timely fashion. In this case, mitigation reference sites would also serve to help identify deficiencies associated with regional environmental conditions beyond the applicant's control and may be helpful in developing appropriate adaptive management goals and activities.

Follow up TPWD Comment 14 - TPWD appreciates the inclusion of performance standards for hydrology and hydric soils. While Section 9.0 of the PRM states that enhancement and re-establishment activities will improve both hydrologic and hydric soil conditions and describes the improvements that will occur in great detail, the success criteria (i.e., performance standards) do not support these claims numerically. In addition, the performance standard would not be monitored after Year 3. TPWD recommends that the performance standard continue to be monitored until the USACE determines that the project has met the performance standards. In addition, performance standards comprised of numeric criteria should be developed to support the claims of the mitigation plan as described in Section 9.0 of the PRM. At present, the only numeric performance standards described in the PRM pertain to vegetative cover. The PRM does not identify the methodology used to calculate the functional capacity index of the impacted wetlands, so it is not clear if the same tool could be used to create numeric criteria for performance standards

Follow up TPWD Comment 15A - TPWD appreciates the inclusion of other invasive/exotic species. TPWD referenced the Texas Invasives Database to demonstrate the potential need to include other species that may warrant control. Because Tract 1 will be owned by the Coastal Bend Bays and Estuaries Program (CBBEP) and managed as part of the Delta Preserve, TPWD recommends that species selection and control methods be coordinated with the CBBEP so that they are

consistent with long-term management goals within the Delta Preserve. In addition, a performance standard for non-woody invasive/exotic species should be developed in coordination with CBBEP. TPWD would prefer to see less than 3% cover of non-woody invasive/exotic species but would accept a standard of less than 5% cover. This performance standard should also be included for uplands to be preserved within Tract 1.
Follow up TPWD Comment 15B- The PRM states that black mangrove (*Avicennia germinans*) on either Tract will not be considered an invasive woody species and will not be treated by any removal or abatement means. Are black mangroves present? If present, where are they located?

TCEQ Comments
Follow up TCEQ Comment 7 - Wetland hydrology will be observed using wetland determination forms, but there is no requirement that the soils meet the definition of wetland. Final hydrology success criteria should include a requirement that the mitigation area meet the definition of wetland per the Atlantic and Gulf Coastal Plain Regional Supplement (USACE 2010).

The agency follow up comments (listed above) were forwarded to the applicant as they were received. The applicant coordinated independently with the Agencies and copy furnished responded to the Corps via email.

Response to USFWS Comments
Follow up M&G Response 3 - all impacts associated with the laydown yard would be permanent. As can be seen, M&G was able to avoid some impacts associated with the laydown yard. However, all remaining impacts are necessary to allow for adequate space for equipment storage during and after construction. As the project continues to evolve, it has become apparent that use of the laydown yard will continue even after construction of the plastic resins facility is complete. Please note that the proposed mitigation plan includes mitigation for impacts to wetlands associated with the laydown yard.
Follow up M&G Response 11 - Please see EPA Comment 8 and Please see PRM Final_M&G Plastic Resins Facility_SWG-2013-2014-05-30.pdf.

Response to EPA Comments
Follow up M&G Response 3 - Effluent will escape and M&G is committed to accomplishing the excavation of the intake and outfall structures via mechanical dredging.
Follow up M&G Responses 8- M&G has received two inquiries concerning the purchase of Tract 2 for development as stated in a letter emailed to EPA (MG Resins USA letter to Delta Land Services (mitigation consultant to the applicant).

Follow up EPA Response 11- This was discussed in item 1 of the Comment Summary and Response document dated May 30, 2014. Tract 1 was historically flooded by freshwater events originating from the Nueces River prior to the construction and implementation of two reservoirs located upstream. These construction activities coupled with municipal use of captured waters cannot be remedied through any onsite actions at the mitigation area. Furthermore, water control structures for mitigation projects is typically not an accepted practice because it requires active management and does not depict a project that is self-sustaining. Furthermore, areas proposed for restoration were investigated during the verification site visit with a member of the Corpus Christi Regulatory Field Office (CCRFO) staff. The staff member concurred that these restoration areas already possess sufficient hydrology to sustain a hydrophytic vegetative community, and simply lack the proper vegetative structure to meet wetland delineation criteria.

Additionally, please note that utilizing the USACE's established wetland mitigation methodology and protocol, M&G has developed a mitigation plan that restores and enhances wetlands to level beyond that required by the project impacts. Also, M&G has committed to preserving in perpetuity, additional acreage (adjacent to the project site) that could potentially be developed in the future.
Follow up M&G Response 14 - The development of organic matter in wetlands has been scientifically documented; relative information regarding those findings was provided in the PRM Plan. The Performance Standards are listed in Section 11.0 of the PRM Plan and are subject to guidance of the 1987 Wetlands Manual (USACE 1987) and Atlantic and Gulf Coastal Plain Regional Supplement (USACE 2010). The success criteria for these Performance Standards utilize the same methods outlined in the aforementioned documents for delineating jurisdictional waters including wetlands. Additionally, monitoring for soil organic matter is outside of the performance standards normally required for mitigation plans.
M&G Response 16 – M&G provided the EPA a file containing the Provide modeling information etc., which shows the impacts of pumping saltwater from the ship channel to salinity levels at the mouth of the ship channel.

Response to TPWD Comments
Follow up M&G Response 11A – Data point 11 (DP11) is located within the enhancement mitigation area of the Permittee Responsible Mitigation (PRM) Area. DP11 was selected as an onsite reference point within the enhancement area because its elevation is similar to or lower than the elevations along the Nueces River Preserve Road (Road) approximately 0.4 miles west (Figures 6 and 8). The saline coastal prairie wetland (prairie wetland) along both sides of the Road are heavily populated by *Spartina spartinae* (*spartinae*) which has been protected from grazing and managed by prescribed fire since the mid-1980s. *Spartinae* dominates the Preserve's prairie

wetland and, as a plant community, is in excellent condition due to the removal of grazing and the application of prescribed fire. Therefore, the enhancement and re-establishment areas will experience the same success by removing all grazing and applying prescribed burning.

The performance standards for the PRM area are specifically designed to determine the jurisdictional wetland status of the re-establishment or enhancement areas. In regards to utilizing DP11 as a reference site for evaluating the performance standards, the PRM plan utilized the ratio method to provide mitigation and not a hydrogeomorphic model (HGM) because a specific HGM for this habitat type is not available within the CESWG. Therefore, the Ratio Method (RM) for determining mitigation requirements was utilized to determine the required mitigation acreage necessary for the proposed project impacts (Attachment B Table 3 of the PRM Plan). Reference points will not be required because each enhancement and re-establishment mitigation area will be monitored for meeting the Performance Standards in Section 11.0 of the PRM Plan. However, all existing data points (DP) on Figure 6 of the PRM plan will be used as monitoring sites in addition to the permanent monitoring plots discussed in Section 12.0 of the PRM Plan.
Follow UP M&G Response 11B - The hydrology of these higher-elevation (1.5 to 2.5 NAVD), saline prairie wetlands is driven by precipitation and periodic overbank flooding resulting primarily from tropical storms. Hypersaline soil conditions are caused by one-way saltwater inputs by tropical storm flooding which inundate the Nueces Delta lowlands, which may be considered positive and/or negative. Tropical storm saltwater tidal flooding has very likely always occurred in the Nueces Delta; however, freshwater flooding inputs (overbank or backwater) no longer flush salt from the land. So, in this sense, and what may seem to be contradictory, saltwater flooding is not necessarily beneficial, it merely is a recent historical fact that has resulted from reservoir construction and the siphoning of freshwater from these reservoirs to meet anthropomorphic needs. If it were not for precipitation driving this ecosystem many areas would very likely become large xeric salt pans.
Follow up M&G Response 11C - The Sponsor feels that DP 11 is a suitable reference site for reasons outlined in the above responses. The permanent monitoring stations within the enhancement and re-establish areas will adequately demonstrate the performance standards as stated in the PRM Plan. Per Section 12.1 of the PRM Plan, permanent monitoring stations implemented within Tract 1 at a rate of one 1/100th-acre plot per 10 acres (i.e., each 10-acre block will have one permanent monitoring station). This is inclusive of both enhancement and re-establishment mitigation areas. As a best management practice by DLS, each wetland delineation data point will become a permanent monitoring plot (plot) within its respective 10-acre block. Data from these plots will include the data listed in Section 12.2.2 of the PRM Plan. Each data point will be utilized to collect wetland delineation report data for confirmation of the wetland requirements per the 1987 Wetlands Manual and 2010 Atlantic and Gulf Coastal Plain

Regional Supplement and percent cover performance standards stated in Sections 11.0, 11.1, 11.2, and 11.3 of the PRM Plan.

Follow up M&G Response 11D- The berm is not continuous and does not hydrologically disconnect the enhancement and re-establishment areas throughout the site. Consideration has been given to leveling the remnants of the spoil for the ditch; however, soil moved from these areas would be deposited in a jurisdictional wetland (DP14 of Revised Figure 6), an enhancement area or a re-establishment area). In addition, broad areas exhibiting similar elevations within the Preserve are populated by *spartinae* along the Preserve road.

Follow up M&G Response 11E - The removal of cattle and prescribed fire has increased herbaceous plant cover on open ground and within old cattle trails. It should be noted that the enhancement areas are not considered as a collective unit and some areas are in better condition than others. However, performance standards in Section 11.0 apply to all restoration areas as the target condition of all prairie wetlands on the site are the same (i.e., the wetland requirements per the 1987 Wetlands Manual and 2010 Atlantic and Gulf Coastal Plain Regional Supplement and plant cover).

Follow up M&G Response 12 - Reference sites within the mitigation project area (DP 11) and on the preserve were used to develop the restoration plan. However, they are not required as part of the PRM due to the extensive monitoring regime outlined in Section 12.0 that will be used to evaluate Performance Standards in Section 11.0.

Follow up M&G Response 13 - As discussed above, reference sites are not required and will not be utilized in the development of Performance Standards. DLS's initial response explains the process by which a diverse coastal prairie wetland will develop as a result of prescribed burns. With regard to adaptive management, the Sponsor will monitor the site annually (as discussed in Section 12.1) to determine the need for remedial/corrective action prior to evaluating the Year 5 Performance Standards. Per Section 14.0 (Adaptive Management Plan) of the PRM Plan, "An adaptive management plan, contingency, and remedial responsibilities will be implemented in the event monitoring reveals that certain success criteria have not been met (i.e., hydrology, hydrophytic plant community or hydric soils). In the event of a deficiency, DLS shall provide a notice to the CESWG. The notice will include an explanation for the deficiency and will outline specific practices and measures that will guide decisions for revising the PRM plan if needed."

Follow up M&G Response 14 - The Year 5 performance standard is clearly stated in the fourth sentence of paragraph one of Section 11.0 of the PRM Plan. "By Year 5, or four years following successful attainment of the Year 1 criterion, Tract 1 re-establishment and enhancement mitigation areas will meet the wetland standards per the per 1987 Wetlands Manual (USACE 1987) and Atlantic and Gulf Coastal Plain Regional Supplement (USACE 2010)." The subsections 11.1, 11.2, and 11.3 iterate the standards of a jurisdictional wetland in which all 3 parameters (hydrology, vegetation, and soils) must meet sufficient indicators.

With regard to the calculation of an FCI and/or use for development of numeric performance standards, a functional assessment is not being utilized for several reasons. A functional assessment model (CESWG Hydrogeomorphic [interim]) is not available for this habitat type. The riverine herbaceous/shrub interim HGM selects against herbaceous communities such as coastal saline prairie where woody invasive species are removed. The riverine forested HGM interim would require tree establishment. The lacustrine fringe HGM interim would require a lake shoreline and neither the enhancement or re-establishment mitigation areas are adjacent to a lake. The tidal fringe HGM interim would require a tidal shoreline and neither the enhancement nor re-establishment mitigation areas are adjacent to a tidal shoreline or tidally influenced.

Follow up M&G Response 15A - Initially, all woody stems will be treated mechanically and chemically. Each stem will be chopped and the stump will be treated with an appropriate herbicide. After the initial process, spot treatments will occur; however, the Sponsor will not implement broadcast spraying due to the likelihood of adverse effects on native herbaceous broadleaf plants colonizing the PRM Area. As discussed in Section 9.2 of the PRM Plan, prescribed burning will be a joint effort with the CBBEP, and CBBEP will be the lead coordinating agency. Fire will be the primary control for invasive woody and herbaceous species as these species are generally not fire tolerant and will be out competed by native fire successional species. Furthermore, DLS will coordinate and assist with any additional invasive/exotic species control measures utilized by the CBBEP on existing Delta Preserve lands.

The Sponsor is confident that prescribed fire is capable of reducing invasive non-woody species to less than 5%. Implementing chemical control for herbaceous exotics within a herbaceous community will be detrimental to the preferred, fire successional species. Removing the preferred species would decrease the available fuel for controlling invasive species. Even with spot spraying, drift will kill (remove) preferred species. As the re-establishment occurred on the Nueces River Preserve since the mid-1980s, enhancing and re-establishing a fire successional community dominated by *spartinae* is the key to successfully meeting the performance standards of the PRM and a maintaining a sustainable prairie

Follow up M&G Response 15B - To the knowledge of the Permittee and DLS, there are no existing colonies of black mangrove on Tract 1 or Tract 2. The statement was placed in the PRM Plan to protect any black mangrove colonies which may develop following restoration and maintenance efforts at the proposed mitigation sites. The possibility of black mangrove colonization is being considered due to the proximity of existing scattered black mangrove to Tract 2 along the Nueces Bay shoreline.

Response to TCEQ Comments

Follow up M&G Response 7- In regards to your comment, "Final hydrology success criteria should include a requirement that the mitigation area meet the definition of

wetland (proper vegetation, soil, and hydrology characteristics) per the Atlantic and Gulf Coastal Plain Regional Supplement (USACE 2010)".
The opening paragraph of Section 11.0 Performance Standards of the PRM Plan reads as follows: "By Year 5, or four years following successful attainment of the Year 1 criterion, Tract 1 re-establishment and enhancement mitigation areas will meet the wetland standards per the per 1987 Wetlands Manual (USACE 1987) and Atlantic and Gulf Coastal Plain Regional Supplement (USACE 2010)." This statement necessitates all restoration areas (enhancement and re-establishment) meet all three wetland delineation criteria (vegetation, soils, and hydrology) by Year 5 (i.e. long term).

The applicant coordinated their responses with the Agencies and copy furnished the Corps. The Agencies responded with the following comments:

USFWS Comments
Follow up USFWS Comment 3 – FWS states that since it was never provided with any details regarding their site layout or site development plans, the questions regarding alternatives to the laydown yard site are, in FWS's assessment, still unanswered. Assuming that they have made their case with the Corps that this site is the practicable alternative, now that the applicant is stating that use of that yard is going to continue post-construction, what is it going to be used for? Will there be additional long-term impacts from that use (i.e. erosion or run-off into Nueces Bay)? Will there need to be additional stabilization of the surface? Lighting? Drainage?

EPA Comments
Follow up EPA Comment 3 - Dredging of the intake and outfall structures is not the only dredging/dredged material disposal you are requesting to be covered by this permit, is it? If there will be any disposal of dredged material dredged via hydraulic dredge, EPA will continue to recommend that the dredged material be tested for contaminants. If that is the case, we have a list of recommended contaminants of concern and target detection limits we would need to recommend as well. The only situation in which EPA would be (somewhat reluctantly) willing to not recommend contaminant testing of dredged material, is if all dredging for this proposed permit were done mechanically.
Follow up EPA Comment 16 – EPA stated that they are not ready to make a final comment on that, but I would point out that the Corpus Christi Bay system already has an artificially elevated salinity regime. While one might argue that the incremental increase due to this proposed project may not be considered significant, EPA thinks one might also argue that the cumulative effects of just (arbitrarily) 10 projects similar to this one, might be considered a significant salinity increase for a system that is already salinity-stressed.

TCEQ Comments
Follow up TCEQ – TCEQ stated "Thanks, that statement addresses my concerns. And with that, all of my comments/concerns have been successfully addressed with the revised mitigation plan dated May 30, 2014 and other documents attached to Corps 7 July 2014 e-mail.

The agency follow up comments (listed above) were forwarded to the applicant as they were received. The applicant coordinated independently with the Agencies and provided copies of the correspondence to the Corps via email.

Response to USFWS Comments
Follow up M&G Response 3 - As previously documented, during follow-up internal reviews of the project by the M&G Team, it has become apparent that the proposed laydown yard on the north M&G tract will need to be a permanent fixture of the project based on the following:

1. M&G plans to store tools, equipment, and materials in the laydown yard during operation of the facility.
2. Material excavated from the facility site will be placed and stored within the laydown yard.
3. Project partners will store tools, equipment, materials, and various other items as needed during the operation of the facility. Many of these items cannot be stored on the facility site due to logistical and operational concerns.

Please note, that M&G has already worked to avoid/minimize impacts to wetlands by avoiding impacts to approximately 1.4 acres of jurisdictional wetlands along the eastern boundary of the laydown yard. Accordingly, the previously proposed laydown yard is now approximately 28.2 acres in extent with only 0.6 acres of wetlands impacted by the construction. All remaining laydown yard acreage and proposed permanent impacts are necessary for logistical, maintenance, safety, and practical reasons. Based on project requirements, the laydown yard and proposed impacts associated with it now should be considered a permanent component of the project along with the facility site on the south tract. Please also note that the proposed mitigation plan includes acreage to mitigate for impacts associated with the laydown yard.

Response to EPA Comments
Follow up M&G Response 3 - M&G confirms that construction of the intake and outfall structures are the only features of the M&G project requiring dredging. No other structures will be constructed within the ship channel as part of the M&G project. As previously mentioned, mechanical dredging will be utilized for all excavation efforts associated with the intake and outfall structures.

The EPA responded with the following comment:

Follow up EPA Comment 3 - Based on the applicant's response, EPA is agreeable to dropping its previous request that the applicant test the dredged material for contaminants.

e. Corps's Consideration of Substantive Comments. The Corps has considered the all substantial comments received during this evaluation and determined that the applicant has adequately address all substantial concerns. The following table summarizes the Corps considerations.

Commenter	#	Comment Summary	Response Summary	Resolved
French	1	Consider impacts to abandon DMPAs.	Outside M&G Control/ Private property	Yes
TCEQ	1	Request for complete mitigation plan.	Transmitted on 5 May 14	Yes
TCEQ	2	Are all impacts account for?	Yes, all anticipated impacts	Yes
TCEQ	3	Water Quality - will it exceed 300mg/l?	Not known, if hydraulic dredging occurs it will	Yes
TCEQ	4	What method of protection for mitigation?	CBBEP chartered to protect, restrictive covenant. Corps confirmed that all mitigation tracts will be protected by a deed restriction.	Yes
TCEQ	5	Requests JD for Tract 1 and Tract 2.	Submitted to TCEQ on 27 Jun 14	Yes
TCEQ	6	Plan does not specify desirable plants.	Sections 11.1, 11.2, & 11.3 specifies	Yes
TCEQ	7	Request all three criteria be added to mitigation plan.	Redrafted 11.0 to include all three criteria	Yes
TCEQ	8	If planting seeds why no monitoring of seeds?	Long term strategy to add to seed bank	Yes
TCEQ	9	10% nox. Spp too much, less than 1% rec.	10% refer to woody but reduced to 3%	Yes
TCEQ	10	Open water should not count	No credit to mitigation	Yes

		to mitigation area.	just part of tract	
TPWD	1	Where is the dredged material be placed?	At this time unknown, onsite or DMPA C. The Corps was informed that the material will be placed in DMPA C	Yes
TPWD	2	The PN states the project would impact 3.5 acres non-wetland waters. Where is it, why is it needed and the tie to water dependency?	M&G responds not wetland waters are not regulated by the Corps. Corps corrects M&G's statement. M&G stated water is needed for desalinization plan for process.	Yes
TPWD	3	What factors make wetland low quality?	M&G explained the factors, and determines the wetlands are of medium quality.	Yes
TPWD	4	Intake and outfall for desalination plant, TCEQ needs to ensure protection of water.	M&G is engaged with TCEQ for permitting	Yes
TPWD	5	a) Not clear if Alt Analysis submitted to the Corps. b) After given to TPWD, they wanted clarification on siting. c) After receiving updated alt. analysis acknowledged addressed concerns.	a) M&G responded it was submitted to Corps. b) Corps gave to TPWD. c) M&G provided additional information to TPWD.	Yes
TPWD	6	PN does not detail a specific mitigation plan.	M&G is working on plan. Later sent to TPWD.	Yes
TPWD	7	Not restoring laydown yard, why, is the laydown yard water dependency?	Laydown yard is for material storage after completion, avoiding wetlands were possible, tied to project.	Yes
TPWD	8	TPWD willing to work with to make a PRM.	M&G Appreciates offer.	Yes
TPWD	9	TPWD recommends not permitting as proposed.	M&G states they plan to follow rules and laws.	Yes

TPWD	10	Preservation not a preferred mitigation strategy.	While restoration is preferred and being done, preservation of at-risk sites is also good.	Yes
TPWD	11	a) How will functional lift occur in enhanced and restored areas? b) Why use a single reference point? c) Location of reference point would affect hydrology. Any reference points should be documented per conditions. d) Thoughts to restoring hydrology/removing berm? e) Has removal of cattle has already occurred with this help re-vegetation of trails?	a) Refer to PRM Section 9. b) Single point chosen because it has less impact and will be used as a comparison since HGM does not apply here. c) The area no longer naturally receives substantial overbank flooding. Sample points will be collected at 1/100th acre per 10 acres. d) Removing berm would fill wetlands. e) Yes it has and some trails are in better shape than others.	Yes
TPWD	12	Mitigation Performance criteria do not describe desirable plant communities. Still not clear if the reference sites will be used.	Primary vegetation is *Spartina spartinae* but other species are expected to occur. Reference sites were used to develop the mitigation plan only.	Yes
TPWD	13	a) Only plant to be planted is *spartinae*, why not other species? Plants should be a diverse community. b) Why is 70% only at year 5? That is too late.	a) Goal is to create a fire successional community. *Spartinae* is a fire species. Plan will allow for diversity. b) M&G did not answer Corps finds TPWD 13 b) has merit. The plan does not allow correcting deficiencies	Yes

			after 5-years. The Corps and the applicant discussed and the applicant agreed change the mitigation success to require meeting 70% for 2 of 3 years. This resolves the TPWD and Corps concerns.	
TPWD	14	Concerns with *spartinae* because is an OBL and occurs in areas without hydrology and soils. Recommendation that Corps monitor until successful and that functional replacement be quantified.	Soils and hydrology criteria are added to the mitigation plan. Functional assessments (HGM) are not designed for impact or mitigation sites; therefore, no functional assessment can be run. Corps concurs with TPWD's concern. The Corps and the applicant discussed and the applicant agreed change the mitigation success to require meeting 70% for 2 of 3 years. This resolves the TPWD and Corps concerns.	Yes
TPWD	15	a) Noxious species should include gramminoid species in addition to woody species. TPWD would like to see 3% but would accept less than 5%. b) Are black mangroves present?	a) Fire is the primary tool to control noxious. species. And will include control of non-woody species. Non-woody noxious species will be controlled to less than 5%. b) Black mangroves are not present.	Yes

TPWD	16	Table 3 in PRM should include state species	State species list has been added	Yes
TPWD	17	Transplanting of any aquatic plants will require TPWD permit.	*Spartinae* is naturally occurring on the PRM site and a copy of the PRM was sent to TPWD and have not heard back	Yes
USFWS	1	No construction information about the pipeline has been provided	It was submitted to the Corps.	Yes
USFWS	2	Concerns about the effluent from the desalinization plant	TCEQ is being engaged for permitting purposes.	Yes
USFWS	3	a) What is the size of the laydown yard? b) Why is it water dependent? c) What is the fate of area? Questions still unanswered long term impacts.	a) Laydown yard is for material storage after completion. b) the laydown yard is directly tied to the project. c) All impacts to the laydown yard are permanent. The laydown yard is necessary for the project.	Yes
USFWS	4	The purpose of Channel B is not addressed.	Channel B is a man-made upland drainage ditch and non-jurisdictional.	Yes
USFWS	5	Requested a summary of project components, acreages and associated fill.	Responded that all parts are necessary and produced a summary table.	Yes
USFWS	6	PN states off-site mitigation will be provided using the mitigation approach. Where is it ?	M&G has followed avoided and minimized impacts to maximum extent practical and logical extent possible. M&G will create a mitigation plan in	Yes

			accordance with 40 CFR230.	
USFWS	7	PN did not contain info about long-term maintenance of intake and outfall structures.	Long term maintenance is uncertain as design is not complete	Yes
USFWS	8	FWS requests the analysis used to make the EPA effect calls.	An ESA analysis for the EPA Green House Gas report was conducted and provided to FWS. The analysis also included communications with the National Park Service	Yes
USFWS	9	Service recommends including manatee conservation measures.	M&G agrees to provide manatee awareness	Yes
USFWS	10	Develop a mitigation plan	Mitigation plan created and provided to FWS	Yes
USFWS	11	How will the preservation component be protected in perpetuity and existing site conditions?	Referred to PRM contains site protection mechanism and site conditions.	Yes
USFWS	12	Several of the responses state information was provided to the Corps. Can we review them?	The Corps is willing to either send the requested documents electronically or they can be reviewed at the Corps office upon appointment.	Yes
EPA	1	Recommend applicant provide a more detailed purpose of the proposed project.	This information was submitted to the Corps, Corps provided to EPA	Yes
EPA	2	Request a copy of the alt. analysis conducted.	This information was submitted to the Corps, Corps provided to EPA	Yes

EPA	3	NWP 16 does not authorize return of contaminated sediments. Concerns about need for sediment testing and where the material will be placed and how removed. If dredging occurs mechanically EPA will agree to drop requirement to test material.	Hydraulic dredging is not proposed for this project. Only mechanical dredging for the intake and outfall structures.	Yes
EPA	4	CCSC has a history of elevated contaminants in the sediments and EPA recommends testing. EPA does not agree with the applicant's response and recommends testing. If dredging occurs mechanically EPA will agree to drop requirement to test material.	Excavated materials will be clean based upon the fact it has not been developed. Sediment testing may occur depending upon substrate type and where it is planned to be placed. The dredging will occur mechanically.	Yes
EPA	5	Recommend using the dredged material for beneficial use.	Since there are not beneficial use projects that could accept the dredged material at this time, beneficial use will not fit the schedule for construction.	Yes
EPA	6	Applicant must propose a compensatory mitigation plan.	Applicant provided a mitigation plan and it was sent to the EPA.	Yes
EPA	7	Question if the proposed mitigation is the best option available as the Rincon is in need of hydrologic restoration.	Since there are no assurances of fresh water inflow the mitigation plan was chosen as it would be sustainable.	Yes

EPA	8	EPA does not agree with preservation of mitigation. Request additional documentation of threat posed to preservation site.	Restoration is preferred, but preservation has value in areas that are in threat of development.	Yes
EPA	9	Question if these tracts will be properly preserved in perpetuity by CBBEP.	CBBEP charter document provides the perpetual mechanism for protection. Tract 2 will be placed under a restrictive covenant until it is deeded to CBBEP.	Yes
EPA	10	Has the mitigation tract been determined to be jurisdictional wetlands?	Wetland delineation was verified by the Corps using an AJD	Yes
EPA	11	Removal of grazing pressure and removal of noxious. species appears to have value but it is limited by lack of overbank flooding. EPA just recommends considering other alternatives.	The mitigation tract is a coastal saline prairie that is no longer subject to frequent overbank flooding due to the man-made reservoirs located up stream. Fresh water inputs will be limited regardless. Applicant considered alternatives and determined that the proposed mitigation was preferred.	Yes
EPA	12	What is the value of planting *spartinae* seed?	To establish a seed bank for plant germination when conditions allow it.	Yes
EPA	13	Performance standards - recommend applicant clarify % cover requirements and sample organic carbon	Performance standards apply to tract 1 only and the PRM Section 11 has been updated	Yes

EPA	14	Recommend sampling organic carbon	Increase in organic carbon in wetlands is an accepted process. The applicant does not see the value of sampling for organic carbon and does not propose to. Applicant maintains position to sample all three criteria (vegetation, hydrology, and soils) to determine if it is a wetland and not organic carbon.	Yes
EPA	15	Consistency between performance standards, monitoring, and reporting.	All three sections were reviewed and addressed as necessary to ensure consistency.	Yes
EPA	16	Request a model of the effects of removing salt water from the inner harbor and add back effluent from the desalinization plant. EPA stated they are not willing to make a final comment on this one.	Provided EPA the modeling information. The Corps considers the withdrawal and discharge of effluent in the Inner harbor an operation and not part of the Corps review process. TCEQ is the regulatory authority that must ensure the discharge of brine will not violate state and federal water quality standards.	Yes

11. Compensation and Other Mitigation Actions.

a. Compensatory Mitigation.

(1) Is compensatory mitigation required? ☒ yes ☐ no

(2) Is the impact in the service area of an approved mitigation bank?
☐ yes ☒ no

(i) Does the mitigation bank have appropriate number and resource type of credits available? ☐ yes ☐ no

(3) Is the impact in the service area of an approved in-lieu fee program?
☐ yes ☒no

(i) Does the in-lieu fee program have appropriate number and resource type of credits available? ☐ yes ☐ no

(4) Check the selected compensatory mitigation option(s):
☐ mitigation bank credits
☐ in-lieu fee program credits
☐ permittee-responsible mitigation under a watershed approach
☐ permittee-responsible mitigation, on-site and in-kind
☒ permittee-responsible mitigation, off-site and out-of-kind

(5) If a selected compensatory mitigation option deviates from the order of the options presented in 33 CFR 332.3(b)(2)-(6), explain why the selected compensatory mitigation option is environmentally preferable. Address the criteria provided in 33 CFR 332.3(a)(1) (i.e., the likelihood for ecological success and sustainability, the location of the compensation site relative to the impact site and their significance within the watershed, and the costs of the compensatory mitigation project):

The project impact site is not in the service area of an approved mitigation bank or in-lieu fee program; therefore, those options are not able to be utilized. The remaining option is permittee responsible mitigation that is further divided into three different options; under a watershed approach, on-site and in-kind, and off-site and/or out of kind. The project area's watershed does not have an approved watershed plan; therefore, it is not applicable. The applicant has stated that they do not have adequate land area to conduct in-kind mitigation on-site; therefore, on-site and in-kind is not a valid alternative. The applicant has proposed a plan that incorporates both on-site and off-site components that provide in-kind and out-of-kind wetland replacement functions.

Mitigation Tract 1 is located off-site but is proposing to restore and enhance wetlands of a similar type (saline palustine emergent) compared to that of the impact site (off-site, in-kind). Mitigation Tract 2 is immediately adjacent to the impact site and located on the applicant's property. It contains an existing functioning estuarine marsh that has been demonstrated by the applicant to be in threat of development/purchase. The applicant is proposing to preserve this tract in perpetuity to protect it from future development (on-site, out-of-kind). The applicant's proposed mitigation plan follows the mitigation sequence and does replace the wetland functions lost at the project impact site.

(6) Other Mitigation Actions. N/A

12. Determinations.

a. Public Hearing. No request to hold a public hearing for the proposed project was received during the public interest review.

b. Section 176(c) of the Clean Air Act General Conformity Rule Review: The proposed project has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined the activities proposed under this permit will not exceed *de minimis* levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR PART 93.153. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons, a conformity determination is not required for this individual permit.

c. Relevant Presidential Executive Orders.
(1) EO 13175, Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians. Through our coordination with the federally recognized Native American Tribes, affiliated groups, and Corps staff archaeologist we have determined that this action has no substantial direct effect on one or more Indian Tribes.

(2) EO 11988, Floodplain Management. The alternatives to the location within the floodplain, minimization, and compensation of the effects of the proposed project were considered above.

(3) EO 12898, Environmental Justice. In accordance with Title III of the Civil Right Act of 1964 and EO 12898, it has been determined that the project would not directly or through contractual or other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin nor would it have a disproportionate effect on minority or low-income communities.

(4) EO 13112, Invasive Species. The evaluation above included invasive species concerns in the analysis of impacts at the project site and associated compensatory mitigation plan.

(5) EO 13212 and 13302, Energy Supply and Availability. The proposed project is not one that will increase the production, transmission, or conservation of energy, or strengthen pipeline safety.

d. The following Special Conditions will be Added to the Authorization:

1. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. When structures or work authorized by this permit are determined by the District Engineer to have become abandoned, obstructive to navigation or cease to be used for the purpose for which they were permitted, such structures or other work must be removed, the area cleared of all obstructions, and written notice given to the Corps of Engineers, Galveston District, Regulatory Division, Corpus Christi Field Office (Corps), within 30 days of completion.

3. The permittee must install and maintain, at their own expense, any safety lights and signals prescribed by the United States Coast Guard (USCG) through regulations or otherwise on the authorized facilities. In addition, no bright lights that may be erected on the permitted structure shall be directed toward a navigable waterway in a manner that could hinder nighttime users of this waterway. The USCG may be reached at the following address: Commander (dpb), Eighth Coast Guard District, Bridge Administration, 500 Poydra Street, New Orleans, Louisiana 70130-3319, or by telephone at 504-671-2128.

The above special conditions are required for fulfillment of the public interest requirements specified according to 33 CFR 320.4(o)(3) Navigation

4. All construction of mitigation, including planting, must be complete within 18 months after start of construction within jurisdictional areas. The permittee will notify the Corps of Engineers, Galveston District, Regulatory Division, Corpus Christi Field Office (Corps) in writing within 30 days of initiating work in jurisdictional areas. Monitoring and maintenance will proceed according to the mitigation plan (Attachment A).

5. An as-built report will be submitted to the Corps within 60 days following completion and/or cessation of all work required for re-establishment and enhancement of the mitigation areas in Tract 1. The as-built report will describe in detail the work performed and post-construction conditions (Attachment A) Section 12.2.1).

6. Annual monitoring reports will be submitted to the Corps by December 31 of the year in which the monitoring occurs. Information required within the monitoring report is detailed in Permittee Responsible Mitigation Plan (Attachment A) Section 12.2.2.

7. If after one year from the initial planting effort (or subsequent planting efforts) the site does not have at least 20% aerial coverage of targeted vegetation, the adaptive management plan (Attachment A, Section 14.0) will be initiated.

8. If after three years from the initial planting effort (or subsequent planting efforts) the site does not have at least 40% aerial coverage of targeted vegetation, the adaptive management plan (Attachment A, Section 14.0) will be initiated.

9. In order for the mitigation plan to be deemed successful and complete, the re-establishment and enhancement areas within mitigation Tract 1 must meet the long-term performance standards stated in Attachment A, Section 11.3. Tract 2 will not require the application of performance standards.

10. Should mitigation be determined to be unsuccessful by Corps personnel at the end of the monitoring period, the permittee will be required to take necessary corrective measures, as approved by the Corps. Once the corrective measures are completed, the permittee will notify the Corps and a determination will be made regarding success of the mitigation. If unsuccessful, additional attempts will be conducted until success is achieved.

11. The permittee will donate sufficient funds to the Coastal Bend Bays and Estuaries Program for the purchase Tract 1 within 30 days of construction beginning in jurisdictional areas. Upon purchase of Tract 1, the owner (CBBEP) will place a conservation easement/deed restriction to protect the tract in perpetuity. A copy of the executed conservation easement/deed restriction will be submitted to the Corps within 45 days of construction beginning in jurisdictional areas. Additional protective measures will be engaged by the permittee if the Corps determines that the enacted conservation easement/deed restriction is not appropriate.

12. The permittee will provide a copy of the existing conservation easement/deed restriction ensuring the protection of Tract 2 in perpetuity to the Corps within 30 days of construction beginning in jurisdictional areas. Additional protective measures that have received Corps approval will be engaged by the permittee if the Corps determines that the enacted deed restriction/conservation easement is not appropriate. The permittee will donate Tract 2 to the CBBEP within 30 days after March 21, 2020 upon satisfactory fulfillment of the permittee's responsibility to financial lenders and provide the Corps with such documentation within the following 30 consecutive days to the donation. CBBEP will maintain the permittee's conservation easement/deed restriction to protect Tract 2 in perpetuity.

The above special conditions are required for fulfillment of the public interest requirements specified according to 33 CFR 320.4(b) Wetland/Special Aquatic Sites and 33 CFR 320.4(c) Fish and Wildlife Values and are required for compliance with 33 CFR 332 Compensatory Mitigation for Losses of Aquatic Resources.

13. The permittee is required to obtain a Corps of Engineers (Corps) Galveston District Real Estate Out Grant prior to utilizing the Corps of Engineers dredged material placement areas.

14. The permittee must coordinate the use of Dredged Material Placement Area C with the Corps of Engineers Galveston District's Southern Area Office, the Navigation Branch and the Operations Division, at least 60 days prior to conducting any and all work in or affecting the disposal area(s) to assure that the work will not conflict with U. S. Government dredging or disposal area management activities.

The above special conditions are required for fulfillment of the public interest requirements specified according to Federal projects.

15. This Corps permit requires under Section 7 of the Endangered Species Act (ESA) implementation of the conservation, avoidance and minimization measures included within the U.S. Fish and Wildlife Service's Consultation Number 2014-I-0110 Letter dated June 30, 2014 (Attachment B). Failure to implement these conservation measures and fully comply with the ESA could result in suspension or revocation of your Corps permit.

The above special condition is required for compliance with the Endangered Species Act.

16. In the event of an inadvertent return, also referred to as a frac-out, associated with these Horizontal Directional Drilling g (HDD) activities, the permittee will follow the "HDD Inadvertent Return Mitigation Plan" frac-out contingency plan received on January 21, 2014, and included as Attachment C. The permittee will also immediately self-report any inadvertent returns within any jurisdictional water along the pipeline route to the Corpus Christi Regulatory Field Office.

The above special condition is required for the fulfillment of the public interest requirements specified according to 33 CFR 320.4(b) Wetland/Special Aquatic Sites.

Rationale: In accordance with 33 CFR 325.4 Conditioning of permits, the district engineer will add special conditions to Department of Army permits when such conditions are necessary to satisfy legal requirements or to otherwise satisfy the public interest requirements.

e. Findings of No Significant Impact. There have been no significant environmental effects identified resulting from the proposed work. The impact of this proposed activity on aspects affecting the quality of the human environment has been evaluated and it is determined that this action does not require an Environmental Impact Statement.

f. Compliance with 404(b)(1) guidelines. We have reviewed and evaluated, in light of the overall public interest, the documents and factors concerning this permit application, as well as the stated views of other interested Federal and non-Federal agencies and the concerned public, relative to the proposed work in navigable waters of the United States. This evaluation is in accordance with the guidelines contained in 40 C.F.R. 230 pursuant to Section 404(b)(1) of the Clean Water Act. We have determined that the proposed discharge complies does comply with the 404(b)(1) guidelines.

g. Public Interest. We find that issuance of a Department of the Army permit is not contrary to the public interest.

FOR THE COMMANDER:

REVIEWED BY:

Date: 11 Sep 2014

Mark Pattillo
Regulatory Project Manager

PREPARED/APPROVED BY:

Date: 11 Sep 14

NICHOLAS LASKOWSKI
Supervisor, Corpus Christi Regulatory Field Office
Regulatory Division, Galveston District